TECHNOLOGY DEPT.

NEW EQUIPMENT DIGEST

A Penton Publication

July, 1953

Volume 18—Number 7

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CHECK AND PASS ALONG

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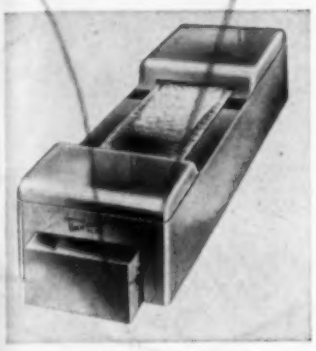
EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

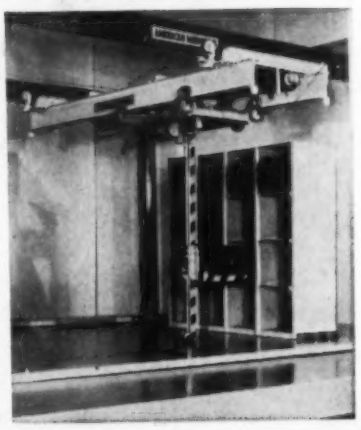
COOLANT FILTER
utilizes vacuum and endless belt



Vacu-matic constant vacuum endless belt filter provides automatic, continuous filtration of water soluble coolants for individual grinders, hones and other machine tools. Unit is self-cleaning, keeps coolant cool and delivers dewatered sludge for easy disposal. Two models are designed for flow rates of 20 and 40 gpm and can be attached to present machines in space usually occupied by sump tanks. Vacuum draws the coolant through the belt and into a clean coolant sump for recirculation. Made by **U. S. Hoffman Machinery Corp.**, Industrial Filtration Div., 219-A Lamson St., Syracuse 6, N. Y.

▲ For more details circle **NED-1 G3** on enclosed inquiry slip ▲

STACKER CRANES
operate in very narrow aisles



Aisle width required for operation of American Monorail stacker cranes is only the length of the load plus 18 in. Crane consists of either a rotating mast equipped with a lifting mechanism or a tubular mast equipped with a rotating and lifting mechanism, suspended from a crane truck for movement on a standard or RailMaster double-bridge crane. All movements of crane and truck can be manual or power operated. Mast can be furnished with fork or other device for picking up a pallet, drum, roll or other load. Crane is applicable when selective and accessible storage is necessary, particularly where storage must be expanded within a limited area. One installation effected a 57 per cent reduction in space needed for storage of drums. Made by **American MonoRail Co.**, 13116 Athens Ave., Cleveland 7, O.

▲ For more details circle **NED-2 G3** on enclosed inquiry slip ▲

ROLLER BEARING BIN RACKS
tote boxes slide in and out easily

Addition of roller bearing slides to Stackracks enables even heaviest boxes or bins to slide as easily as file drawers. These Slide Racks lock together without tools to form storage units of any size, shape or capacity. Stops prevent roller bearing slides from being pulled out more than halfway, minimizing box spills or falls, but still permit easy access and removal. Made by **Stackbin Corp.**, 1081 Main St., Pawtucket, R. I.

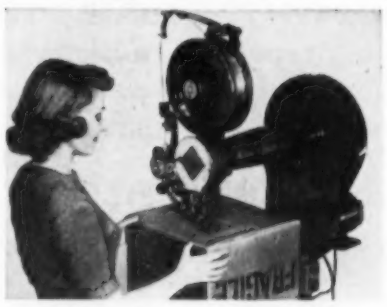
▲ For more details circle **NED-3 G3** on enclosed inquiry slip ▲

CONTINUOUS PRINTER
processes dry photo copies

Automatically printing dry photo copies in widths to 12-in. and in any length, the Exact-Phote-Copy machine will reproduce between 60 and 90 copies an hour. The unit operates on 115-v ac and is fully portable, being equipped with a carrying handle and weighing only 18 lb. The exterior of the machine is finished in gray vinyl plastic. Made by **General Photo Products Co.**, Dept. NED, General Photo Bldg., Chatham, N. J.

▲ For more details circle **NED-4 G3** on enclosed inquiry slip ▲

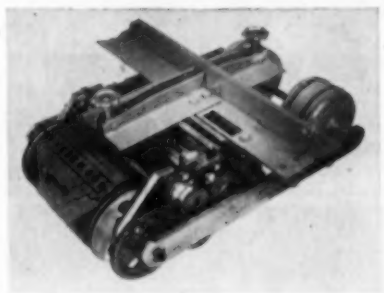
WIRE CARTON STITCHING
arc shaped for high strength



Standard flat stitching wire is formed into an arc prior to the stitch forming operation by the Arcuate carton stitching method, then is driven and clinched at high speed. Stitches are strong, light and practically buckle-free. Arc shape of the wire gives stitches high column strength and allows them to be made from lighter gage wire. Other advantages of the system include elimination of jamming, longer time between reloads and elimination of punctured box liners. Tests show that stitches made with light arc-shaped wire have good holding strength. Made by **Acme Steel Co.**, 2822 Archer Ave., Chicago 8, Ill.

▲ For more details circle **NED-5 G3** on enclosed inquiry slip ▲

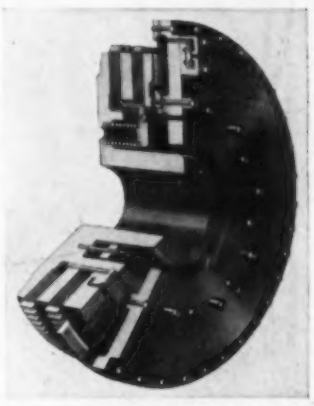
OVERHEAD PRINTING SYSTEM
synchronized with material flow



This overhead aniline printing system with pick up rollers is synchronized with the speed of the material flow. It is used to print continuously on all types of metals, fabrics or barrier material. It can easily be incorporated in a production line set-up. Made by **Industrial Marking Equipment Co.**, Dept. NED, 454 Baltic St., Brooklyn 17, N. Y.

▲ For more details circle **NED-6 G3** on enclosed inquiry slip ▲

AIR-ACTUATED CLUTCHES
in two and three plate 24-in. sizes



Developed from previous models, the PO air-actuated clutches have a higher torque capacity, and are narrower and lighter. The new design permits units to be installed in less shaft space, with closer shaft-bearing center distances. Air actuation is effected through insulated and air-cooled diaphragms. All parts are fabricated from specially developed alloys, for maximum strength to withstand heavy load shocks and tooth wear. Made by **Twin Disc Clutch Co.**, Dept. N, Racine, Wis.

▲ For more details circle **NED-7 G3** on enclosed inquiry slip ▲

To Serve You Better

The interest that you and other readers have been displaying in the products advertised and described editorially in NEW EQUIPMENT DIGEST has resulted in a phenomenal rise in the number of inquiries that has been received by our office. In recent months, the volume of inquiries has taxed the capacity of our service department in spite of increases in personnel.

After a careful study of the whole inquiry forwarding problem, we have purchased and installed complex electronic equipment which will enable us to process your requests for additional information with almost unbelievable speed.

With these new machines, if your request about a product reaches us in the morning on the post-paid inquiry form, it will be transmitted immediately onto another form and will be mailed to the manufacturer that afternoon.

This "same day" processing of inquiries is just another way in which NEW EQUIPMENT DIGEST is constantly striving to serve you better.

F. O. Rice
PUBLISHER

...gners, Engineers, Plant Managers . . .

VALVAIR IS AS CLOSE TO YOU AS THESE REPRESENTATIVES

We take pleasure in offering you the services of these representatives. They are pneumatic specialists — *every one of them.* Phone the nearest one for information and expert help on your air control problems.

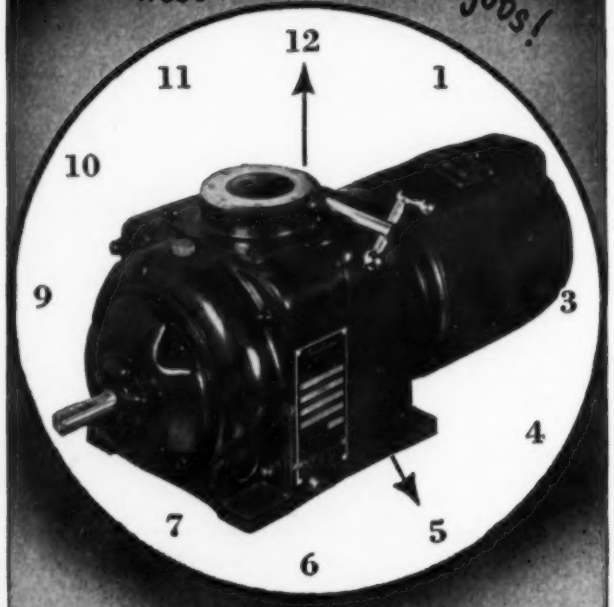
Alabama
Birmingham — S. L. Morrow Eng. Co.
California
Eureka — Bearings & Transmission Prod.
Pasadena — S. M. Kipp
San Francisco — The Burke Co.
Connecticut
Hartford — Gibson Eng. Co.
Georgia
Savannah — Air Products Co.
Illinois
Chicago — Walter Norris Eng. Co.
Indiana
Logansport — Tec Eng. Co.
Massachusetts
Boston — Gibson Eng. Co.
Michigan
Detroit — William Finn
Minnesota
Minneapolis — John Henry Foster Co.
Missouri
Kansas City — Ellis Akin Eng. Co.
St. Louis — John Henry Foster Co.
New York
New York City, Newark — K. E. Knotts Co.
Buffalo, Rochester, Syracuse — R. C. Neal Co.
Ohio
Cleveland — P. W. Rice
Dayton — K. C. Mosier
Oregon
Portland — Power Transmission Prod.
Pennsylvania
Glenside — J. Boyd Coates
Pittsburgh — Ralph A. Hiller Co.
Texas
Houston — Hydraquip Corp., Wendler Co.
Washington
Seattle — Chain Gear, Inc.
Wisconsin
Milwaukee — Jas. H. Connell
CANADA
Montreal — Cowper Co., Inc.
Toronto — John Spotton Co., Ltd.
Vancouver — Galbraith & Sulley, Ltd.

Rely Upon Valvair — 2-WAY — 3-WAY — 4-WAY

For more details circle NED-8 G3 on enclosed inquiry slip

GET Graham variable speed drives

For those 'round the Clock jobs!



most for the money *because . . .*

- **ULTIMATE in SIMPLICITY and COMPACTNESS** — only the Graham is a straight line extension of a standard induction motor — or available without motor.
- **UNLIMITED SPEED RANGE** — from any desired maximum speed to zero, including reverse if wanted without stopping motor.
- **UNMATCHED ACCURACY** — of speed setting and resetting and speed holding.
- **NO PERISHABLE PARTS** — such as belts or tubes, requiring periodic replacement.
- **PROVED PERFORMANCE** — Fifteen years satisfactory use as standard equipment.
- **LOW COST** — a better job for less money.

Prompt Delivery on Standard Models

GRAHAM TRANSMISSIONS, INC.
Dept. NED, Menomonee Falls, Wis.

GET Graham — most reliable variable speed drive made — ENGINEERED and RATED for 'ROUND the CLOCK SERVICE

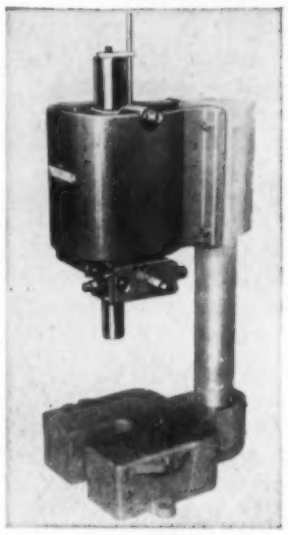
For more details circle NED-9 G3 on enclosed inquiry slip

WIRE ROPE CORE made of vinyl chloride

Plastic core for wire rope, principally used in rope for oil and gas well drilling, is made of plasticized vinyl chloride material. Core is resistant to acids, alkalies, alcohols, brine, aliphatic hydrocarbons and other subsurface substances. Material has uniform operating abilities at both high and low temperatures. Made by **Irvington Varnish & Insulator Co.,** Dept. NED, 6 Argyle Terrace, Irvington 11, N. J.

For more details circle NED-10 G3 on enclosed inquiry slip

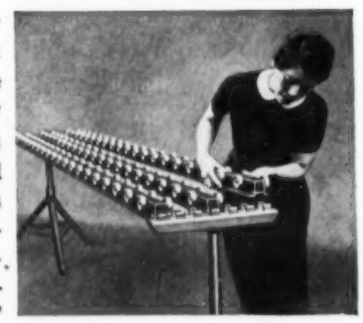
IMPACT HAMMER HEAD mounts at any angle, or upside down



Now available as a separate unit, 75-lb head of model Z-2, 12,000-lb Exploded Air impact hammer can be mounted at any angle or upside down to handle light stamping, forging, trimming, molding, crimping, coining, riveting, staking or forming operations. Unit operates at 100 psi line pressure at rate of 60 strokes per minute using either hand or foot control. Automatic operation by addition of solenoid valve and guide-rod switches increases speed to 120 strokes or more per minute. Head is adjustable to any pressure up to capacity, and impact is constant at any point during stroke. Made by **Air-Hydraulics, Inc.,** 231 Belden Rd., Jackson, Mich.

For more details circle NED-11 G3 on enclosed inquiry slip

GRAVITY WHEEL CONVEYOR separate rails are demountable



Separate and demountable rails with attached wheels are feature of this gravity wheel conveyor. Rails are lightweight and set into special stands which require no fasteners. Complete sections are also available. These "live rails" can be used on transfer cars, turn tables, trough or V-type conveyors for rolls, live storage banks, and wide space pallet conveyors. They can be combined in any of 18 different wheel patterns, dismantled, then recombined as needed. Made by **Alvey-Ferguson Co.,** Dept. NE, 75 Disney St., Cincinnati 9, O.

For more details circle NED-12 G3 on enclosed inquiry slip

Guaranteed to stop water seepage through masonry walls!

ABOVE OR BELOW GRADE—WHEN USED AS DIRECTED

Cement SHAM-ROCK Paint

SAVES UP TO 50% on labor and material costs as determined by actual comparison tests. Sham-Rock is low in price, excels in coverage.

EASY TO APPLY—Sham-Rock is easily applied with brush. Requires no scrubbing. Saves greatly on time and labor.

PERMANENT—Sham-Rock is money-back guaranteed for a minimum of 5 years. Has been used successfully to stop water seepage of 175 gals. per min. through a concrete reservoir of 1¼ million gals. capacity.

UNIVERSAL—Stops water seepage and dampness through concrete walls, masonry, cinder block, etc. Used in elevator pits, tunnels, basements, tanks, retaining walls, etc.

AVAILABLE IN WHITE AND COLORS

Write Dept. N for Literature

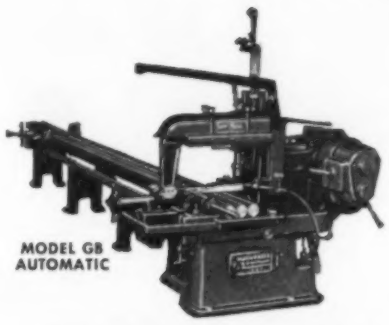
WATER-REPELLENT Multi-Dri MATERIALS — Masonry Waterproofing Company, Inc.

BOX 1061 NORTH STATION, ARLINGTON 7, VA.

For more details circle NED-13 G3 on enclosed inquiry slip

SawMore METAL CUTTING MACHINES

FAST METAL CUTTING . . . . *Made Easy!*



If it's speed you need . . . SawMore Metal Cutting Machines are your first choice. SawMore Machines cut accurately. Operate at lowest cost.

These highlight features—built into every SawMore Machine—help you achieve top production.

- **Self-aligning blades**
- **Automatic feed**
- **Positive compensating feed**
- **Gears—constant mesh**

Write for complete information on the advantages of SawMore Machines

MAQUOKETA COMPANY
CLINTON, IOWA

For more details circle NED-14 G3 on enclosed inquiry slip

Browning SPROCKETS

OFF-THE-SHELF
READY-FOR-USE
A Time and Money Saver with

Split Taper Compression Bushings
• NO REBORING
• NO WELDING

Write for Catalog CD 101.
There's a Browning Distributor near you.

BROWNING MANUFACTURING COMPANY
MAYSVILLE · · · KENTUCKY

For more details circle NED-15 G3 on enclosed inquiry slip

If your record of safety is slipping...

. . . you can get back on a firm footing with WHIZ Check-Slip. Check-Slip is the self-polishing floor coating that contains no wax, yet gives all the lustre, long wear and low-cost maintenance features you want in a first-class floor finish. And the beauty of it is—no slipping. All kinds of companies know Check-Slip stands up on all kinds of floors—not tacky, dirt-catching or discoloring. Non-inflammable, too.

For details, write Hollingshead today!

INDUSTRIAL SECTION
R. M. Hollingshead CORPORATION
LEADER IN MAINTENANCE CHEMICALS
840 Cooper St., Camden 2, N. J.

For more details circle NED-16 G3 on enclosed inquiry slip

NEW Magnetic SUPER-SWEEPER

Removes Chips, Bolts, Nails From Factory Aisles, Drives, etc.

Eriez new Super-Sweeper is the most powerful, economical permanent non-electric magnetic sweeper ever designed to pick up and hold dangerous shavings, chips, nuts, bolts and other tramp iron from factory aisles, parking lots, shipping areas, etc. Super-Sweeper helps to keep floors clean and safe . . . reduces accidents . . . prevents tire blowouts!

PULL IT . . . Super-Sweeper's double steel tube handle with looped end easily hitches to any vehicle. *PUSH IT* . . . Super-Sweeper is powerful . . . light weight . . . easily maneuvered around machines, aisles, etc. *SUSPEND IT* . . . Super-Sweeper is adapted for industrial and fork lift trucks . . just remove wheels and handle, attach with built-in eyebolts.

Low cost Eriez Super-Sweeper is quickly cleaned by stripping the tramp iron accumulation from the sturdy canvas cover stretched over magnetic face.

Four sizes (from 35½" to 71½" wide) in three magnetic strengths for medium, heavy and extra heavy-duty tramp iron removal are available for manual or mechanical operation . . . at amazingly low cost.

Write TODAY for *new* brochure on Eriez permanent Super-Sweeper. It fully describes this new low cost sweeper . . . includes specs and prices.

ERIEZ MANUFACTURING CO.
40 MAGNET DRIVE, ERIE, PENNSYLVANIA

For more details circle NED-17 G3 on enclosed inquiry slip

GRIND - POLISH - ETCH WITH THIS 110,000 R.P.M. NU-JETT PENCIL GRINDER

NU-JETT DOES ANY FINE, PRECISION GRINDING
POLISHING AND FINISHING
ETCHING, DEBURRING, CARVING

COMPLETE GRINDER **$30.**

Includes pencil grinder, air control valve, air filter, 6' hose, chuck wrench.

NU-JETT IS An entirely new pencil grinder, weighing 4 oz. Air driven, it uses 50 lbs. or more pressure.

NU-JETT USES Carboloy or steel burrs. Triples life of abrasive wheels due to high speed.

DISTRIBUTORS WANTED
THROUGHOUT U.S. AND CANADA

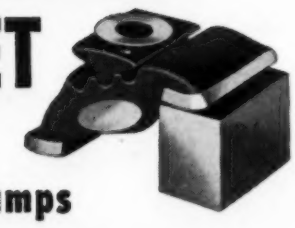
"Easy to Control as a lead pencil"

NU - JETT PRODUCTS
1365 Michigan St., N.E. Grand Rapids, Mich.

For more details circle NED-18 G3 on enclosed inquiry slip

GUARANTEED NOT TO BREAK!

AUTOSET self-setting hold-down clamps



FOR PRESSES AND MACHINE TOOLS

No packing required—has 3 inter-related contact surfaces. **Setting time savings** soon pay for initial cost. **Tools gripped, can't slip**—eliminates scrapped tools. **Malleable castings** of high tensile strength and quality. **Six sizes** carried in stock at all times.

EXACTO INDUSTRIES, INC.
150 So. Doheny Drive, Beverly Hills, Calif.
Phone BRadshaw 2-5321
Distributors for Northwest Hose Clamps

Since 1943—Manufacturers of aircraft clips and clamps which conform to latest AN specifications.

Suppliers to air-frame manufacturers in the U.S. and Canada: Air Force and Navy. Representatives in principal cities.

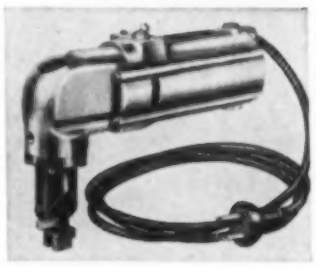
For more details circle NED-19 G3 on enclosed inquiry slip

BLOW GUN
air flow can be regulated

With throttle valve that meters air pressure exactly with finger-tip control, this blow gun is readily adaptable to requirements for cleaning jobs in shops, foundries, production lines and machine shops. If required, the valve can also be set for any desired pressure output. Of simple design, gun is shaped to fit the hand, and has a one-piece cast housing. Made by **Aro Equipment Corp.**, Erie St., Bryan, O.

For more details circle NED-20 G3 on enclosed inquiry slip

PORTABLE NIBBLER
improved model for heavy-duty use



Redesigned nosepiece is among the improvements built into this Little Wonder portable electric nibbler (*NED—Nov.* '52) giving it greater rigidity and durability under prolonged use. Tool incorporates a punch and die arrangement and will cut metals including stainless steel up to 14-gage. A new type bearing in the drive shaft, a built-in fan for motor cooling and a three-conductor cable are among the other detail improvements. A 220-v universal motor is now available in addition to the regular 110-v motor. Made by **Fenway Machine Co.**, 20 S. Fifteenth St., Philadelphia 2, Pa.

For more details circle NED-21 G3 on enclosed inquiry slip

WIRE WRAPPING TOOL
is air or electrically operated

In electrical assembly work, gas-tight joints between terminal lugs and connecting wires can be made without use of solder by this hand held air or electrically operated gun-type wire-wrapping tool. Rotating spindle has axial opening that receives wire terminal and smaller axial opening into which skinned end or connecting wire is inserted. Automatic positioning of spindle facilitates loading. On rectangular terminals having sharp edges, contact pressure in finished connection is about 15,000 psi, requiring a 10-lb force to strip. Available through licensed tool manufacturers, tool was developed by **Western Electric Co.**, Room 1330, 233 Broadway, New York 7, N. Y.

For more details circle NED-22 G3 on enclosed inquiry slip

It can lift 25 tons up to 5 inches is only 10 inches high, weighs 38 lbs.

The "Mighty Mite" (No. 2510-C-2)
**other sizes handle 10 to 50 tons*

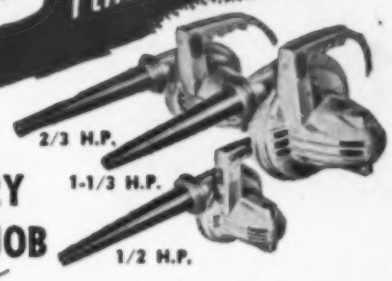
This precision made, ball-bearing journal jack is a favorite in industrial plants, construction and engineering companies, building movers, railroads and ship yards. The "Mighty Mite" is easy to carry, simple to operate, quickly raised and lowered, and is absolutely safe and dependable. It can be operated on any plane. A solid steel handle (1⅛" x 36") with pinch bar ends, which can be used as a pry bar, is furnished with each jack.

Call your distributor for complete details and information on prices and delivery or write the oldest and largest manufacturers of lifting jacks for bulletin AD12N. The Duff-Norton Manufacturing Co., P.O. Box 1889, Pittsburgh 30, Pa. Canadian plant—Toronto 6, Ontario.

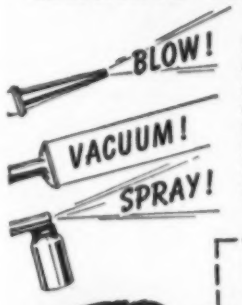
DUFF-NORTON JACKS
"Giving Industry A Lift Since 1883"

For more details circle NED-23 G3 on enclosed inquiry slip

IDEAL "Hand Type" CLEANERS — Cut Cleaning Time and Costs!



3 MODELS ...for EVERY CLEANING JOB



For easier, faster maintenance or production cleaning jobs — on machinery, stock bins, scrap pick up — there's an IDEAL "Hand-Type" Cleaner to meet your needs exactly — to save you money! Three great models, all built to rugged, real industrial standards. Get today's top cleaner value — get IDEAL!

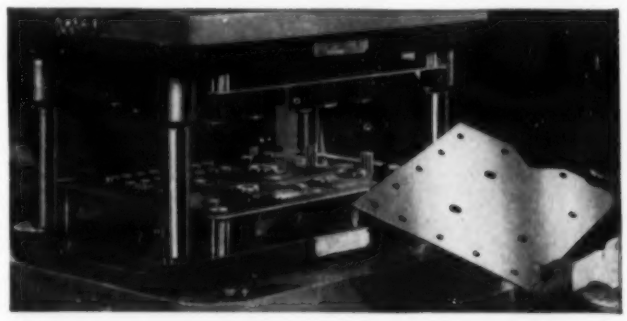
Sold Through Leading Distributors

TRY ONE FREE!

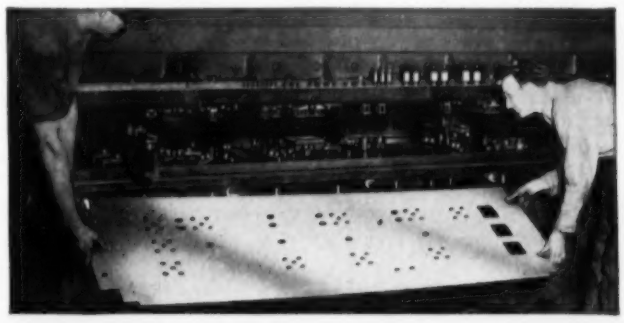
IDEAL INDUSTRIES, Inc.
1032 Park Avenue, Sycamore, Illinois
Please give us FREE DEMONSTRATION of the IDEAL "Hand-Type" Cleaner for our plant.
NAME
COMPANY
ADDRESS
CITY ZONE STATE

For more details circle NED-24 G3 on enclosed inquiry slip

New • Fast • Proven LOW COST METHODS for PERFORATING and NOTCHING SHEET METALS



Whistler *MAGNETIC* Dies at work in large inclinable press. Magnetized retainers hold the units. No bolting required. A fast, economical method in making up a punch and die set for short or long runs. All parts re-usable.



Whistler *ADJUSTABLE* Dies on perforating and notching job, using Tee slotted die set. With Whistler Adjustable Punch and Die units production starts within hours instead of weeks. Last minute job changes made quickly.

REDUCE DIE COSTS... All units and parts are interchangeable and used repeatedly in different arrangements. **INCREASE PRESS PRODUCTION**—*Down time is minutes as compared to hours for changeover.* For precision work in all types and sizes of presses. **START PRODUCTION AT ONCE.** Pierce materials up to ¼" thick mild steel. Standard sizes and shapes available up to 3 inches. Special sizes to order.

Here are the complete details with prices and application illustrations. Send for these catalogs. No obligation.

NAME
FIRM
ADDRESS
CITY ZONE STATE

S. B. WHISTLER & SONS, Inc.
Adjustable, Magnetic, Custom and Cam Dies for all Industry
750 Military Road Buffalo 23, New York
BOOTH 2024—NATIONAL METAL CONGRESS—OCT. 19 to 23—CLEVELAND

For more details circle NED-25 G3 on enclosed inquiry slip

STEEL

Every Kind

Some steel products are in short supply but over-all stocks are still large, diversified

NEARBY STOCKS INCLUDE:

BARS—carbon & alloy, hot rolled & cold finished
STRUCTURALS—channels, angles, beams, etc.
PLATES—U, M. & sheared, Inland 4-Way Floor Plate
SHEETS—hot & cold rolled, many types & coatings
TUBING—seamless & welded, mechanical & boiler tubes
STAINLESS—Allegheny sheets, plates, bars, tubing, etc.
REINFORCING bars & access.
BABBITT bearing metal
MACHINERY & TOOLS for metal fabrication

RYERSON

Joseph T. Ryerson & Son, Inc. Plants: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Los Angeles, San Francisco Spokane, Seattle

For more details circle NED-34 G3 on enclosed inquiry slip

BOWEN DOES IT AGAIN!

NEW

LAVATORY-WATER HEATER COMBINATION

Beautiful — compact — economical. The basin is made of gleaming white porcelain coated steel with chrome plated mixing faucet. And it mounts on a handsome "baked on" white enamel steel cabinet—with the Bowen 5-gallon Automatic Water Heater enclosed. The unit is adaptable for use practically anywhere—offices, shops, factories, etc., or wherever hot water, from a central source, is impractical.

UL SA

Fully approved by Underwriters' Laboratories, Inc., and the Canadian Standards Association.

QUICK INSTALLATION—Anywhere

The water heater is thermostatically controlled, heavily insulated! Water stays piping hot, long after current cuts out. It's truly economical. Internally plumbed. Quick installation—no special wiring required. Just two simple plumbing connections.

WRITE FOR CATALOG TODAY

BOWEN WATER HEATER DIV.
Mfg. by HANDLING EQUIPMENT MANUFACTURING CORPORATION
WIXOM, MICHIGAN

For more details circle NED-35 G3 on enclosed inquiry slip

Your LOW COST SOLUTION to PROCESS HEAT problems

Save time and money with economical, easy-to-install

CHROMALOX *Electric* **UNITS**

Only Chromalox gives you a full selection of electric heaters to meet every need. Over 15,000 types, sizes and ratings to choose from, most available from stock—for heating gases, liquids, platens, dies, molds, ovens, soft metals and countless other materials. Chromalox Heaters are easily and inexpensively installed, provide concentrated, controlled heat that is dependable, economical, safe, clean and efficient.

Industrial Div., EDWIN L. WIEGAND CO., 7509 Thomas Blvd., Pittsburgh 8, Pa.

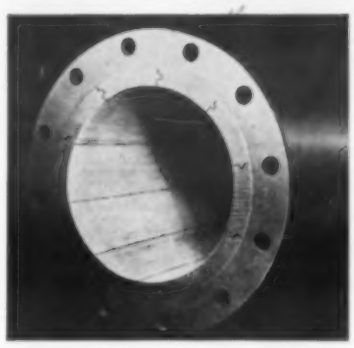
See other ad on pg. 71

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

For more details circle NED-36 G3 on enclosed inquiry slip

WOOD-LINED STEEL PIPE
for corrosive slurries and acids



Wood lining of clear Douglas fir, redwood or pine staves 1 to 3 in. thick in MPC steel pipe provides a suitable piping medium for such process and waste corrosives as acetic acid, acid mine waters, chemical gases, slurries, pulps and mild alkali solutions. Steel shell ranging in thickness from 5/64 through ¼-in. carries the stress of service pressures up to 250 psi. Easily installed, pipe is equipped with flanged joints gasketed with Saran or red rubber material. Standard lengths are 10 and 20 ft, and internal diameters range from 3 through 40 in. Special lengths and diameters are available on order as well as higher pressure ratings up to 400 psi. Fittings can be obtained for all pipe sizes. Made by **Michigan Pipe Co.**, Dept. NED, Bay City, Mich.

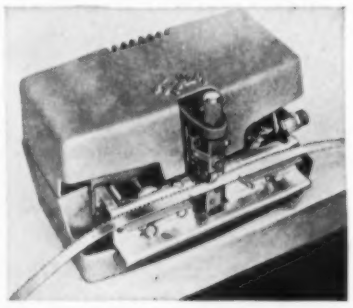
For more details circle NED-37 G3 on enclosed inquiry slip

ASPHALT FLOOR DRESSING
non-oily, evaporates immediately

New non-oily dressing for asphalt floor tiles is sprayed or brushed on, acts on dust particles and then evaporates, leaving no residue. After brushing or mopping, the floor is left completely dust-free. Mops and brushes will not load, and after shaking out, are ready for reuse. The dressing is colorless and has a pleasant odor. It has good coverage and is nonflammable. Made by **Hillyard Chemical Co.**, Dept. KR 2-0, St. Joseph 1, Mo.

For more details circle NED-38 G3 on enclosed inquiry slip

BAND SAW SETTER
speeds from 6½ to 15 seconds per ft



Having a "twin-hammer" action that permits setting both rows of teeth in one operation, automatic power saw setter speeds range from 6½ to 15 seconds per ft, for saws with 4 to 8 points per inch up to 1½-in. wide. Hand saws from 4 to 16 points per inch can also be set. Operation is three-stage: the saw is inserted, points per inch are selected on a graduated dial, and the desired depth is set. The machine is then fully automatic. The unit is equipped with motor and "step-on" foot switch. Made by **Foley Mfg. Co.**, Dept. C.F., 3300 Fifth St. N.E., Minneapolis 18, Minn.

For more details circle NED-39 G3 on enclosed inquiry slip

Write for free booklet

See this booklet, containing new and improved features in standardized conveyors. Logan Conveyor ADAPTO UNITS are pre-fab units which are combined to make standardized conveyors such as Inclined Belts, Horizontal Belts, Live Rollers. Because pre-engineered and produced in quantity, shipment can be made rapidly. Quotations are very prompt and prices attractively low. Built by a pioneer in the industry. Write for your copy of booklet today.

LOGAN CO.
215 Cabel St., Louisville 6, Ky.
Send free booklet—Logan Conveyor ADAPTO UNITS
Mr._____
Firm_____
Address_____

Logan CONVEYOR ADAPTO UNITS

For more details circle NED-40 G3 on enclosed inquiry slip

MOBILIFT

Lev-R-Matic DRIVE

FORK LIFT TRUCKS

Low Cost Handling!

- STAND-UP AND SIT-DOWN MODELS
- GAS OPERATED—NO GEARS TO SHIFT
- A SIZE TO FIT YOUR NEEDS

Write for complete specifications or contact your nearest Branch Office.

MOBILIFT CORPORATION
835 S. E Main St., Portland 14, Oregon
2317 W. 18th, CHICAGO • 790 Patterson Ave., E. RUTHERFORD, N. J.
2724 Taylor St., DALLAS • 113 Spring St. N. W., ATLANTA
2730 San Pablo Ave., BERKELEY

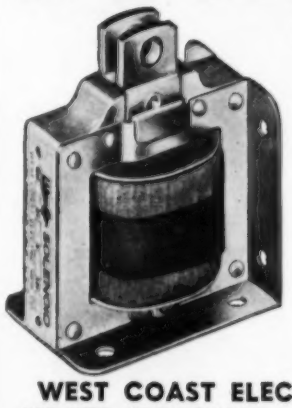
MOBILIFT Lev-R-Matic DRIVE

For more details circle NED-41 G3 on enclosed inquiry slip

WesCo

100 SERIES

A. C. SOLENOIDS



BASIC FEATURES:

Corrosion resistant finish.
Replaceable coils.
Horizontal or vertical mounting.
Transformer grade silicon steel laminations.
Stainless steel plunger guides.
Coils—thoroughly impregnated.

Write for our brochure which details characteristics and dimensions of this amazingly efficient unit.

WEST COAST ELECTRICAL MFG. CORP.
233 WEST 116th PLACE LOS ANGELES 61, CALIF.

For more details circle NED-42 G3 on enclosed inquiry slip

ROLL YOUR OWN

MARKING LINES

LITTLE GIANT **HANDI-LINER***
THE SPEEDY HAND-OPERATED LINE PAINTER
*pat. pending

NEW
easy-to-use
economical
light-weight
5 year
guarantee
ORDER TODAY

Factories, service stations, warehouses, drive-ins, airports, etc.—save time and money with the Little Giant Handi-Liner. Paints perfect marking lines almost as fast as operators can walk. Sturdy, long lasting. No moving parts to get out of order. Uses any good traffic paint. Used by leading industrial firms, municipalities, garages, U. S. Agencies, etc.

only $32.75 complete F. o. b. Balto.
Finest quality high-visibility line-marking paint, 1 gallon cans, 4 cans per case f.o.b. Balto. White $2.95 gal. Yellow $3.20 gal. Red or Orange $3.35 gal.

LASTING PRODUCTS CO., paint manufacturers
BALTIMORE 23 MARYLAND

For more details circle NED-43 G3 on enclosed inquiry slip

WHAT R-B PUNCHES SAVE...

If you use shoulder or set-screw type punches, you have excessive press down-time when replacing worn or broken punches.

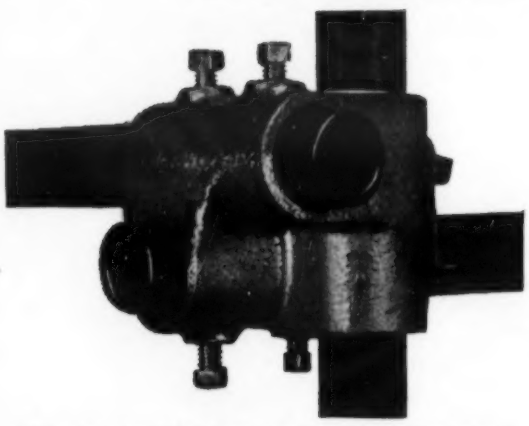
But, with R-B interchangeable and standardized punches and die buttons you get quick insertion and removal in the press. The R-B ball lock features, that assure positive radial alignment and vertical locking without further keying, permit greater press utilization.

RICHARD BROTHERS PUNCH DIVISION
ALLIED PRODUCTS CORPORATION
DEPT. 72 • 12629 BURT ROAD • DETROIT 23, MICHIGAN

Also Produced in OTHER ALLIED PLANTS
SPECIAL COLD FORGED PARTS • STANDARD CAP SCREWS
PRECISION GROUND PARTS • SHEET METAL DIES MADE OF FERROUS ALLOYS, ZINC ALLOYS OR PLASTICS

▲ For more details circle **NED-44 G3** on enclosed inquiry slip ▲

MAKE YOUR OWN SCAFFOLDS AND RACKS WITH PIPE



FOR MAINTENANCE AND CONSTRUCTION

Safe, durable, adjustable, rolling and frame scaffolds for ALL jobs.

FOR ADJUSTABLE STORAGE RACKS

Material racks, pallet racks, bench frames and portable bleachers are also erected with:

AMIDON FITTINGS

and standard pipe • pictures available

AMIDON ENGINEERING CO., Elyria 20, O.

▲ For more details circle **NED-45 G3** on enclosed inquiry slip ▲

modernize materials handling with CARGOTAINERS

Cargotainers are designed to keep pace with modern methods of materials-handling because they are: 1. Sturdy and resistant to shock; 2. Readily folded when not in use; 3. Open mesh so that contents may easily be seen for quick inventory; 4. Efficiently designed for shipment, assembly line use, and vertical storage. Write for information concerning the new CLEARVIEW model with its exclusive base construction for greater durability and better locking and stacking. Dept. NED, Pittsburgh Steel Products Co., Grant Bldg., Pittsburgh 30, Pa.

Pittsburgh Steel Products Company
A Subsidiary of Pittsburgh Steel Company

▲ For more details circle **NED-46 G3** on enclosed inquiry slip ▲

ROLL & SPOOL WINDER
preset tension electrically controlled

Winding a wide variety of materials on spools or rolls, the Alquist winder can be set for any tension, which it maintains automatically from the core to the roll circumference. It will handle materials from thin rubber and plastics through textiles to heavy wire and cable. The unit is independently powered, and can be had in either left or right hand winding. It automatically accommodates itself to the speed of the machine it is servicing without loss of pull or torque. Made by **Hobbs Mfg. Co.**, Dept. 23, 26 Salisbury St., Worcester 5, Mass.

▲ For more details circle **NED-47 G3** on enclosed inquiry slip ▲

SMALL PLANT OFFICES
erected to any size or shape with sturdy movable partitions

Attractive functional interior wall systems in plants and offices in rented or leased space is provided economically with Hauserman movable steel interiors. Flexibility of arrangement is possible with these prefabricated partitions which are installed complete with all hardware. Setups are serviced whenever necessary by company specialists. Since sectional wall systems do not become integral part of leased or rented space, they can be removed at any time and set up in new plant or relocated in presently occupied quarters.

Post caps and base members are rolled heavy-gage steel. They are snapped off easily when new or additional electrical outlets are required. Steel partitions are prepacked with noncombustible mineral wool for maximum resistance to sound transmission and heat loss. Acoustic type partitions can be provided for noisy areas. Unlimited range of colors is available in baked-on finishes to harmonize with any decorating or functional schemes. Occasional soap and water washing is all that is needed for maintenance. Sizes and shapes are available to meet every need from complete office systems to a small toolroom. Made by **E. F. Hauserman Co.**, 7561 Grant Ave., Cleveland 5, O.

▲ For more details circle **NED-48 G3** on enclosed inquiry slip ▲

PAINT FENCES, TANKS BUILDINGS 6 TIMES FASTER QUICK EASY WAY

with FencPainteR

Save 90% on labor costs, 50% on materials, with this amazing new painting method. Used by America's largest industrial firms, institutions, parks, playgrounds, etc. Stranded roller applicator covers big areas quickly . . . paints most any surface, minimizes waste, slashes costs. Special trial outfit, includes Industrial size FencPainteR, receptacle, 5 gal. Aluminum enamel, 1 gal. solvent (enough for 2000 sq. ft.) only $57.00 ($5.00 extra for gray, white or black) ($10.00 extra for red or green). An easy ONE DAY job!

MAIL COUPON for 8 page illustrated brochure with full details covering FencPainteR products and their use.

FencePainteR Corporation
2314 W. Van Buren Street Dept. E Chicago 12, Ill.

FencePainteR Corp., 2314 W. Van Buren St., Dept. E, Chicago 12, Ill.
☐ Please rush Free 8 page Brochure
☐ Send Special Trial Offer, complete
(Color desired.....) $.....
Name .....
Address .....
City ..... State .....

▲ For more details circle **NED-49 G3** on enclosed inquiry slip ▲

Lower Loading Dock Costs

use PENCO MAGNESIUM Truck and Car Loading Ramps

★ One Man Operation
★ Easily Transported
★ Easily Adaptable

MODERN SIMPLIFIED DESIGN

ALL WELDED STURDY CONSTRUCTION

★ Made of heavy duty Diamond Safety Plate
★ Non-Skidding
★ Heavy Side and Center Trusses
★ Weighs three-quarters less than steel
★ Reduces Accidents
★ Cuts Labor Costs
★ Speeds-up Operations

100% Efficiency
Loading and Unloading Operations

Thousands of Penco lightweight Magnesium Ramps are in use throughout the nation. There is a Penco style and size (any capacity) for either car or truck docks, ready for instant use without installation expense. Send for descriptive literature—get all the facts in the many exclusive and superior features available only in Penco Ramps. Also Steel Ramps.

PENCO ENGINEERING CO.
25 California Street, San Francisco 11

▲ For more details circle **NED-50 G3** on enclosed inquiry slip ▲

Simple—Accurate—
WEIR METERS
for Waste Measurement

● Float-and-cable Weir Meters developed by Foxboro offer simple, accurate measurement of liquid flow. Widely used in sewage, chemical processes, and industrial waste disposal.

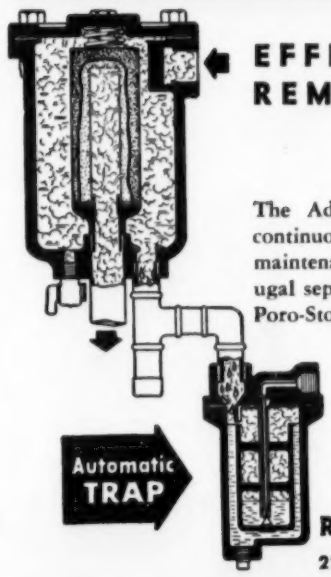
The Foxboro Weir Meter is extremely simple. Operates through motion of float to measure head through V-notch, rectangular or Cippoletti weirs—or Parshall flumes. Motion is transmitted by cable to accurate recording or integrating mechanisms. Direct-reading, uniform flow scale—copper or plastic-covered floats.

Write for detailed information. **The Foxboro Company, 667 Neponset Ave., Foxboro, Mass., U. S. A.** Also Montreal, Canada. Branches in principal cities.

FOXBORO Reg. U. S. Pat. Off. WEIR METERS

▲ For more details circle **NED-51 G3** on enclosed inquiry slip ▲

Poro-Stone Filtration FOR COMPRESSED AIR



EFFICIENTLY REMOVES:

OIL, WATER PIPE SCALE

The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 176.

R. P. ADAMS CO., INC.
227 E. Park Dr., Buffalo 17, N. Y.

ADAMS *Poro-Stone* AIR FILTER

▲ For more details circle **NED-52 G3** on enclosed inquiry slip ▲

What do you know about the *Moly-sulfide* LUBRICANT?
A LITTLE DOES A LOT

You may have heard about a highly successful solid-film lubricant which is giving remarkable results in the shop and in the field.

In one 40-page booklet we have collected 154 detailed case-histories describing how difficult lubrication problems have been overcome by molybdenum sulfide. If you wish to be up to date about this solid-film lubricant, write for a free copy now.

THE LUBRICANT OF MANY USES

Moly-sulfide
A LITTLE DOES A LOT

SEND FOR THIS FREE BOOKLET TODAY

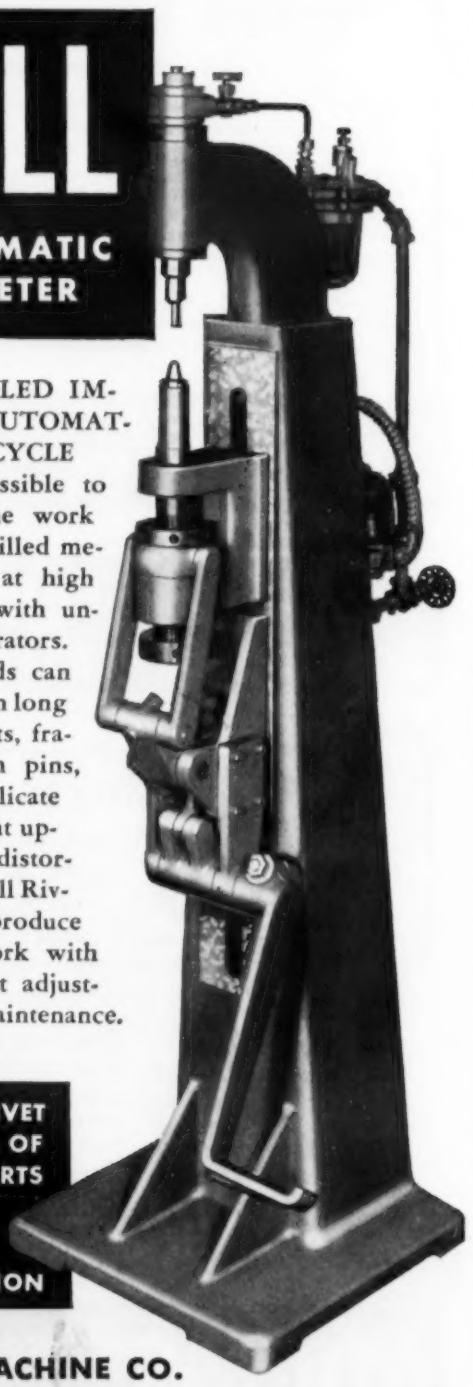
Climax Molybdenum Company
500 Fifth Avenue · New York City 36 · N.Y.

▲ For more details circle NED-53 G3 on enclosed inquiry slip ▲

Delicate Riveting Jobs

CAN BE PERFORMED RAPIDLY AND UNIFORMLY BY PEINING WITH THE

HILL PNEUMATIC RIVETER



CONTROLLED IMPACT and AUTOMATIC TIME CYCLE make it possible to duplicate the work of highly skilled mechanics — at high speed and with unskilled operators. Perfect heads can be formed on long slender rivets, fragile fulcrum pins, and other delicate parts without upsetting or distortion. The Hill Riveter will produce uniform work without constant adjustment and maintenance.

LET US RIVET SAMPLES OF YOUR PARTS — NO OBLIGATION

HILL MACHINE CO.
1309 EDDY AVENUE, ROCKFORD, ILLINOIS

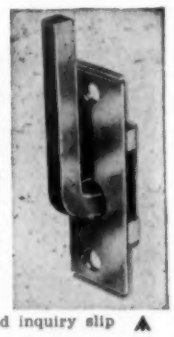
▲ For more details circle NED-54 G3 on enclosed inquiry slip ▲

ELECTRIC DRILL KITS
¼-in., 2000-rpm drill is offered

Model 107, ¼-in., 2000-rpm electric drill with Jacobs geared chuck, pistol grip and lock button trigger switch is offered in two available shop kits with accessories. Model 114 kit consists of steel carrying case containing hand drill, 13 twist drills for wood or metal, horizontal drill stand for stationary bench use, 4-in. wire wheel brush, 3-in. buffing wheel with rouge stick and 3-in. grinding wheel for contact grinding and implement sharpening. Kit No. 113, in addition to drill, contains four assorted high-speed twist drills for metal or wood, 5-in. rubber back-up pad with three abrasive disks of various grits, and wool polishing buff. Available from **Porter-Cable Machine Co.**, 18 Exchange St., Syracuse 8, N. Y.

▲ For more details circle NED-55 G3 on enclosed inquiry slip ▲

TOOL BOX LOCK
has other applications



Simple in design and easy to apply and operate, this tool box lock can be used on utility compartment doors, boxes and other applications. Handle is integral with bushing and locking bolt. Lock can be applied to wood or metal. Made by **A. L. Hansen Mfg. Co.**, 5164 Ravenswood Ave., Chicago 40, Ill.

▲ For more details circle NED-56 G3 on enclosed inquiry slip ▲

AIR CYLINDER HOIST
100-3500 lb capacities offered

With capacities ranging from 100 to 3500 lb and lifting strokes from 24 to 49 in., Pneu-Lift air cylinder hoist is sparkproof and smooth acting. Bleeder type design permits fine movement control, and a check valve allows the air line to be disconnected so that hoist and load can be moved from place to place without long air lines. Load can be lowered without reconnecting the air line. Construction features include sealed-in piston lubricator and self-lubricating bronze bushings and graphite impregnated packings. Made by **Lehigh Foundries, Inc.**, Air Control Div., 1503 Lehigh Dr., Easton, Pa.

▲ For more details circle NED-57 G3 on enclosed inquiry slip ▲

SIGNS DATES PROTECTS IN ONE OPERATION
—the new Todd Check Disburser

It's the only machine of its kind in the office equipment field. It puts the date, the amount, the signature on a check in a single operation.

The new Todd Protectograph Disburser safeguards your checks from alteration not only of amount and signature but of date, too. With it, check issuance is rigidly controlled every step of the way—from blank check to cancelled check. Insurance guarantees this protection.

For complete information—mail the coupon.

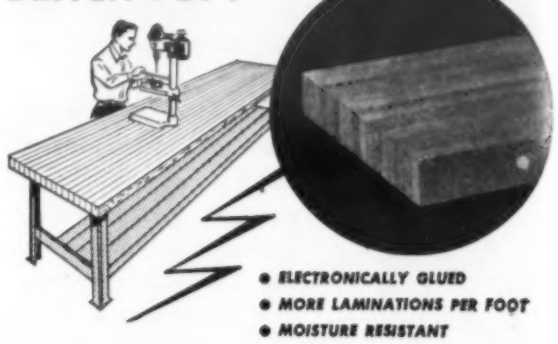
THE TODD COMPANY, Dept. NED
Rochester 3, N. Y.
Please send full details on the Todd Protectograph Disburser

Name of Firm _____
City _____ Zone ____ State ____
Telephone _____
By _____ NED-7-53

Todd COMPANY, INC.
ROCHESTER NEW YORK
SALES OFFICES IN PRINCIPAL CITIES
DISTRIBUTORS THROUGHOUT THE WORLD

▲ For more details circle NED-58 G3 on enclosed inquiry slip ▲

LAMINATED BENCH TOPS
● NOTHING—BUT NOTHING
TOPS A TOLCO BENCH TOP!



● ELECTRONICALLY GLUED
● MORE LAMINATIONS PER FOOT
● MOISTURE RESISTANT

Tolco Northern Maple, laminated assembly bench tops are built by the originators of electronic gluing. Skilled craftsmen blend their talents with the finest quality lumber available to bring you the supreme product in the laminated bench and table top industry. Tolco tops have more laminations per board foot than any other giving them superior strength and resistance to wear and tear. Special processing makes Tolco tops especially resistant to moisture and warpage. Write today for full color catalog illustrating and describing this outstanding product. Prices on request.

THE TOLERTON COMPANY
P. O. Box D 658 Alliance, Ohio
Established 1894

▲ For more details circle NED-59 G3 on enclosed inquiry slip ▲

ZINC CHROMATE PRIMER STOPS RUST

America's Largest Selling "PUSH BUTTON" SPRAY PAINT

for "HARD-TO-REACH" paint jobs.

Solids meet Navy-Army Specifications JAN-P-735

EASIEST TO USE *and* PROFITABLE TO SELL

Order from your jobber today or write for FREE color samples and catalog sheets.

SEYMOUR *of Sycamore, Inc.*
SYCAMORE, ILLINOIS

WHITE, CLEAR AND 27 BEAUTIFUL COLORS

▲ For more details circle NED-60 G3 on enclosed inquiry slip ▲

Slash Carbide Tool Costs 50% By Installing A "LOADMETER" ON YOUR MACHINES

1 Provides a simple and accurate method of determining when a cutting tool is dull and should be changed.

2 Takes the guesswork out of feed rate selection. Permits Time Study establishment of a production or feed rate within exact machine capacity.

3 Prevents expensive stalling by excessive cuts, and assists Maintenance Departments in localizing machine troubles.

PAYS FOR ITSELF *the first week!*

For any motorized machine tool the "Loadmeter" is specifically designed to eliminate tool breakage and control tool wear.
Ask for Catalog Sheet DML

THE Tutur MILL — DETROIT MILLING CUTTER CO.
28625 Grand River • Farmington, Mich. • Phone Farmington 1590

▲ For more details circle NED-61 G3 on enclosed inquiry slip ▲

SPLIT-SECOND ELECTRONIC TIMING

with no-filament tube!

Split seconds the EASY way — use a CK Electronic Timer

Easy Starting... No warm-up, through use of cold-cathode tube. Immediate re-cycling possible. Momentary - contact operation if desired.

Easy Setting... Short intervals can be spread over the entire dial. Standard ranges: 1.5, 3, 6, and 12 seconds.

Easy on space .. Only 3⅞" wide by 3" deep by 4⅞" high.

Easy on cost... $29.00, or $32.00 with momentary-contact feature.

— For full details, write, wire, or phone —

Farmer ELECTRIC COMPANY
WABAN, MASSACHUSETTS

▲ For more details circle NED-62 G3 on enclosed inquiry slip ▲

INDUSTRY APPROVED...

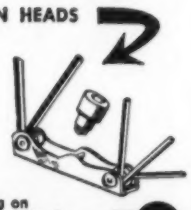
Hunter Screwholding Screwdriver

- STARTS SCREW ...
- DRIVES SCREW ...
- SETS SCREW ...

Major manufacturers rely on this unique Hunter screwdriver with the non-magnetized, fully automatic, internally controlled mechanism that REALLY holds the screw. Model C stands 55 inch pounds torque pressure and holds screw against 30 pounds pull. Cuts man hours literally 80%. Hardened steel locking pin, tough chromoly steel tip, shockproof, red glow tenite handle. Many industrial and electrical functions. Used by: Beckman Instrument - Bendix Radio - Chrysler Motors - General Controls - General Electric - Gilfillan Brothers - Hiller Helicopter - Hughes Aircraft - Minnesota-Mining-Manufacturers - Minneapolis Honeywell - Philco - RCA U.S. Navy Ordnance Laboratory, White Oaks - Western Union - Westinghouse.

Complete line of Screw Holding Screwdrivers, fit slots from #3 to #10

POCKET SIZE SMITTY DRIVER for ALLEN HEADS



Always at hand . . . where you want it . . . no more lost time looking for a misplaced Allen wrench. Fits all standard Allen type or socket type bolts and screws. Handle gives great leverage. Equal to a whole kit of socket head wrenches. Shafts swing out like knife-blades.
P5—5 blade sizes, 3/32" to 7/32".
P6, Smitty Jr.—6 blade sizes .050 to 5/32".

Write today for full information and free catalog on complete line of time saving industry proven Hunter tools.

HUNTER TOOLS
BOX 7395 LUGO STATION • Los Angeles 23, California

▲ For more details circle NED-63 G3 on enclosed inquiry slip ▲

SELF-CLEANING Clear-flo STRAINER

4 TYPES FIT ALL MAKES OF SPRAY GUNS

ORDER CORRECT MODEL

- A — Fits all models of SPRA-CO spray guns.
- B — Fits BINKS, SHELMATIC, BLACK AND PAASCHE, and the small de VILBISS spray guns.
- C — Fits KELLOGG, CROWN, SPRAYIT, and DE CORA spray guns.
- D — Fits standard de VILBISS spray guns.

For other makes, check with us for correct model.

A CLEAR-FLO strainer on the end of the intake tube of your spray gun keeps production humming. Paint need not be pre-strained, and experience shows that you SAVE ONE MAN HOUR PER GUN PER DAY by eliminating time out for cleaning, reworking spoiled work. Cleans itself when gun is cleaned. Quickly and easily installed and changed. Manufactured from finest brass screening. Cost so little, lasts so long, each Clear-Flo strainer more than pays for itself.

Photo above shows what happens after a single day's use. Note how material that normally would clog the gun is stopped, yet the strainer works at full efficiency. Although photo of gun has been retouched, strainer part is exactly as photographed, without retouching.

CLEAR-FLO STRAINER CO.
8050 35TH AVE. N.E. SEATTLE, 5, WASH.

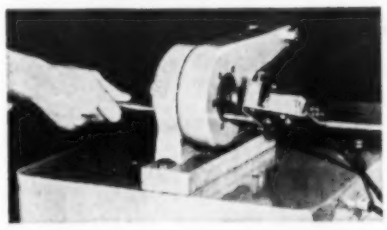
▲ For more details circle NED-64 G3 on enclosed inquiry slip ▲

ELECTRIC LIFT raises 800 lb up to 20 ft

Usable where space limitations prohibit the use of an inclined belt conveyor, this electrically operated lift will raise or lower 800-lb loads at a standard 15-ft per minute speed, or 300 lb at 30 ft per minute from floor to floor. The platform can be lowered to within 6½ in. above floor level and raised to a top height of 20 ft. Micro limit switches are adjustable to stop the platform at any point between the top and bottom range of travel. Standard steel platform size is 24 x 30 in., but smaller and larger models are available. Made by **Rapids-Standard Co.**, Dept. WE, 342 Rapistan Bldg., Grand Rapids 2, Mich.

▲ For more details circle NED-65 G3 on enclosed inquiry slip ▲

CUT-OFF GAGE automatically sizes stock lengths



Designed for the Di-Acro rod parter, the Micro-Matic gage makes possible speeds in excess of 9000 cuts per hour in bar stock. The gage is preset to the desired length of stock, which is then inserted through the cutting head of the machine. As soon as it presses against the gage, a solenoid is tripped and the cut made, allowing the cut part to be ejected. After the gage is set, the operator can concentrate solely on feeding stock. Made by **O'Neil-Irwin Mfg. Co.**, 582 Eighth Ave., Lake City, Minn.

▲ For more details circle NED-66 G3 on enclosed inquiry slip ▲

HYDRAULIC SKID TRUCK transports loads up to 1000 lb

Hydraulic raising by foot pedal and lowering by release lever are features of the Hydraulift Skid Truk, a 1000-lb capacity unit for intraplant transportation. Easy swiveling action and narrow width permits use in narrow aisles, either by pushing or pulling. Covered steel platform allows use as a platform truck without skids when desired. Overall length is 49 in., width is 14 or 18 in., platform height is 7 in. and lift is 1¾ in. Made by **Ironbound Box & Lumber Co.**, 55 Hoffman Pl., Hillside, N. J.

▲ For more details circle NED-67 G3 on enclosed inquiry slip ▲

WHY GENERATE WHEN YOU CAN CONVERT?

GET DC DIRECTLY FROM AC

Cut costs, maintenance, replacements with

Federal SELENIUM RECTIFIER EQUIPMENTS

Famous for steady, long-life power supply

Federal's compact, rugged, silent, ever-dependable selenium rectifiers are the *economical, efficient* way to get DC . . . for chucks, brakes, clutches, drums, pulleys, relays, circuit-breakers, solenoids, motors and many other applications . . . for all DC needs of the machine tool industry!

Equipments are ready to connect to AC . . . ready to deliver uninterrupted service!

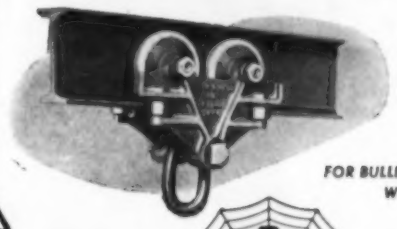
For data on available FTR equipments, or any desired rating, write to Dept. E 3142

Federal Telephone and Radio Corporation
SELENIUM-INTELIN DIVISION
100 Kingsland Road Clifton, N. J.

▲ For more details circle NED-68 G3 on enclosed inquiry slip ▲

hand pushed TROLLEYS

Webb Hand Pushed Trolleys are sturdily built for long life and minimum maintenance. Hardened steel wheels equipped with retainer type ball bearings assure long wearing properties and ease of operation. Triple labyrinth seals keep lubricant in and dirt out. Side guide rollers effectively eliminate binding and excessive wear, especially when moving loads around curves. For simple, inexpensive and easy handling of materials, use Webb Hand Pushed Trolleys.



P-2530
4" to 10" I-Beam; ½ Ton.

FOR BULLETIN AND PRICES WRITE TO:

JERVIS B. WEBB COMPANY
8921 ALPINE AVE. DETROIT 4, MICH.
OFFICES IN PRINCIPAL CITIES
CONVEYOR ENGINEERS AND MANUFACTURERS

▲ For more details circle NED-69 G3 on enclosed inquiry slip ▲

CROWN MITRE GEAR UNIT

NEW, COMPACT

ANSWER TO VARIED POWER TRANSMISSION PROBLEMS

LOOK

AT THE SALES FEATURES OF THIS PRECISION-BUILT RUGGED MITRE GEAR UNIT

- Hardened "ZEROL" gears
- Matched pairs of gears run in before assembly
- Double shielded ball bearings throughout
- Provision for re-lubrication if necessary
- Choice of four or five mounting faces
- High load capacity
- Long service life
- Compactly designed and rigidly constructed for guaranteed industrial service.
- 1/3 and 1 H.P. at 1800 R.P.M. with 250 and 750 in. lbs. static torque, with two or three shaft extensions.

Crown Gear, Inc.
290 WEST STREET KEENE, N.H., U.S.A.

Also Manufactured and Sold Through Distributors in Canada by H&R Arms Co., Ltd., Montreal, P.Q.

▲ For more details circle NED-70 G3 on enclosed inquiry slip ▲

FREE SAMPLE

- Makes and keeps belts soft and pliable
- *Pliable* belt "clings" to "surface" of pulley
- Dissolves hard "glaze" that makes belts slip
- *Only* belt preservative that has met and passed U. S. Government Tests and Requirements
- Sold with money-back guarantee since 1896

Cling-Surface Company, Inc.
1045 Niagara Street • Buffalo, New York

Please send me FREE sample can of Cling-Surface "50" Belt Preservative

Name.....
Title.....
Company.....
City.....State.....

▲ For more details circle NED-71 G3 on enclosed inquiry slip ▲

▲ For more details circle NED-72 G3 on enclosed inquiry slip ▲

FLOW METER
measures free-flowing solids

With a capacity from 10 to 225 lb per minute and an accuracy of plus or minus 1 per cent, the Massometer measures such free-flowing solids as grain, dry chemicals, flour and other cereal products. Measurement is made on a front-reading circular chart, which can be provided with an integrator. The unit is 24½-in. high by 26-in. wide, and is arranged for pipe stand mounting. The inlet and outlet are fitted with 5-in. diameter pipes. Made by **Wallace & Tiernan,** 27 Main St., Belleville, N. J.

▲ For more details circle NED-74 G3 on enclosed inquiry slip ▲

SPEED NUTS
push-on type for D-shaped stud

Functional advantages are offered by C12000 series Speed-Nuts when used on D-shaped studs. Pressed over these studs with their prongs parallel to the

flats, these new Push-Ons can be easily and are quickly removed by merely turning them 90 degrees by hand. Made by **Tinnerman Products, Inc.,** Dept. 14, P. O. Box 6688, Cleveland 1, O.

▲ For more details circle NED-75 G3 on enclosed inquiry slip ▲

STEAM TRAP
capacities to 6800 lb per hour

Supplied with 1 or 1¼-in. threaded connections, the model 814 side outlet and inlet steam trap has capacities up to 6800 lb per hour, depending on pressure. Body and cap are cast semi-steel, valve and seat hardened chrome steel and interior trim stainless steel. The pressure range of the unit is from 0 to 250 psi, height is 13⅝ in., diameter 9 in., and weight 45 lb. Made by **Armstrong Machine Works,** 819 Maple St., Three Rivers, Mich.

▲ For more details circle NED-76 G3 on enclosed inquiry slip ▲

S-A SWIVELOADER

Saves time, money and labor. Powerful centrifugal thrower loads dry granular material up to 2" size into far corners of box cars. *Operator stays safely outside car.* May also be used for storage bins or piles. *Mail coupon for Bulletin 1046.*

MAIL COUPON FOR FULL DATA

STEPHENS-ADAMSON MFG. CO.
Standard Products Division
12 RIDGEWAY AVE., AURORA, ILL.
Please send me Bulletin 1046 on S-A SWIVELOADERS.
Name.....
Company.....
Address.....
City.....Zone....State.....

▲ For more details circle NED-78 G3 on enclosed inquiry slip ▲

from receiving to shipping

12 Buschman CONVEYORS

serve Admiral's refrigerator plant

- Six Apron Conveyors—door and cabinet assembly.
- Two Belt Conveyors—receiving dock to mezzanine storage.
- Elevator Conveyor—from R R cars to storage.
- Belt Conveyor—from assembly to shipping.
- Junction and Down-Ender Conveyor.
- Up-Ender and Shipping Room Conveyor.

Down-Ender Conveyor transfers crated upright refrigerator to horizontal position.

Ball Caster Table is used to turn cabinets on the line.

More refrigerators . . . at lower cost . . . is the overall aim achieved with BUSCHMAN Conveyors at Admiral's Midwest Subsidiary plant. In this plant, as in hundreds of others in every branch of manufacturing BUSCHMAN Engineers have designed time, money and space saving equipment for the handling of materials from receiving through process, assembly and finishing to storage and shipping.

Write for Bulletin No. 60

Representatives in principal cities

PRODUCE MORE . . . FOR LESS at Buschman Conveyors

THE E. W. BUSCHMAN CO.
Spring Grove at Winton Place
Cincinnati 32, Ohio

▲ For more details circle NED-73 G3 on enclosed inquiry slip ▲

GRIES CUTS COST AND TIME

Write Today for Demonstration Samples.

GRIES REPRODUCER CORP.
82 Willow Avenue, New York 54 • Phone: MOtt Haven 5-7400

▲ For more details circle NED-77 G3 on enclosed inquiry slip ▲

Best Buy in Hoists!

...and here's why!

1 Low operating cost.
2 Safe! The *only* hoist with self-locking, double worm gear which acts as its own load brake.
3 Steel from hook to hook—heavy, positive acting limit switches.
4 Dual voltage motors quickly convert from 220 to 440 volts or vice-versa.
5 Just hang it up, plug in, pull cord (one-hand control) and it goes to work.
6 Assured performance, backed by the exclusive Whiting Warranty Plan.
7 Most standard models shipped from stock.

WHITING ELECTRIC CHAIN HOISTS

Send for Illustrated Bulletin H-112

WHITING CORPORATION
15660 Lathrop Ave., Harvey, Ill.

▲ For more details circle NED-79 G3 on enclosed inquiry slip ▲

Nationwide Swing to

FISHER SERIES 67
SMALL VOLUME REGULATORS

AN ALL-PURPOSE REGULATOR PARTICULARLY ADAPTED AS AN AUXILIARY OPERATING MEDIUM PRESSURE REGULATOR
• ACCURATE, EFFICIENT REGULATION
• TIGHT CLOSURE • WILL NOT CHATTER, VIBRATE OR SING • NEAT DESIGN

CAPACITY UP TO 6 C.F.M.
WRITE FOR FISHER BULLETIN 67

FISHER GOVERNOR COMPANY
Marshalltown, Iowa

TYPE 67
With handwheel adjusting screw.

TYPE 67 FR
Combination filter regulator.

FISHER
LEADS THE INDUSTRY IN RESEARCH FOR BETTER PRESSURE CONTROL

▲ For more details circle NED-80 G3 on enclosed inquiry slip ▲

S-A Car Pullers

If you have your own switch track, you can profitably use an S-A Car Puller. No need to use a gang of men or wait for a switch engine. *One man can shift or spot up to six loaded cars under normal conditions.* Powerful capstan will also pull or lift other heavy loads at 45 feet per minute. *Mail coupon for Bulletin 1339.*

MAIL COUPON FOR FULL DATA

STEPHENS-ADAMSON MFG. CO.
Standard Products Division
12 RIDGEWAY AVE., AURORA, ILL.
Please send me Bulletin 1339 on S-A Car Pullers.
Name.....
Company.....
Address.....
City.....Zone....State.....

▲ For more details circle NED-81 G3 on enclosed inquiry slip ▲

▲ For more details circle NED-82 G3 on enclosed inquiry slip ▲

DO THESE NEW

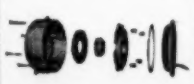
Reuland motors

FIT INTO YOUR PICTURE?

(cut-away view)

FLUID-SHAFT MOTOR — Provides smooth acceleration of heavy loads. More compact than separate motor and fluid coupling. *Perfect alignment!* Thousands in use on cranes, mixers, centrifugals, etc.

FLUID-SHAFT MOTOREDUCER — This Fluid-Shaft motor and gear reducer combination converts the motor's conventional high speed into a slow speed, smooth starting, compact unit. Ideal for car pullers, conveyers, dryers, etc.



MAGNETIC BRAKE — The only brake that permits the use of TWO output shafts per motor. *When desired the motor shaft can be extended right through!* Only 6 major parts...no levers or linkage... self adjusting... half usual length!

Write for new engineering folder on these and other *exclusive* Reuland Products... *industrial units designed to fill the needs of the nation's leading equipment manufacturers!*

REULAND ELECTRIC COMPANY
ALHAMBRA, CALIF.
Representatives in all principal cities
FIRST IN QUALITY... FIRST IN DESIGN

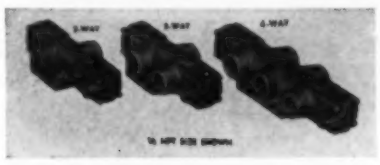
▲ For more details circle NED-83 G3 on enclosed inquiry slip ▲

PLASTIC COATED GLOVE for handling oil coated tools

By impregnating Edmont's regular plastic glove coating with a special compound, a tough-tempered, long wearing coating that looks and feels very much like leather has been produced. This Durox coating has high wet-grip qualities that make gloves highly practical for handling materials or tools that are coated with oil, grease or other slippery agents. A 12-in. fully coated gauntlet, fully coated knitwrist, palm coated knitwrist and palm coated safety cuff styles are available in this Grappler line. Fully coated styles are made on the curved-finger, wing-thumb pattern with preflexed finger joints. A palm-coated knitwrist is illustrated. Made by **Edmont Mfg. Co.,** 1240 Walnut St., Coshocton, O.

▲ For more details circle NED-84 G3 on enclosed inquiry slip ▲

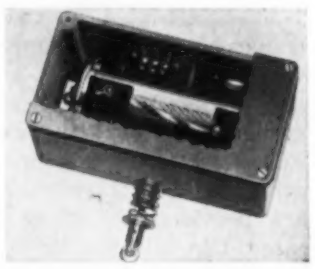
AIR-HYDRAULIC CONTROLS in two, three and four-way types



Utilizing same hand, cam, pilot or foot actuating devices as employed in previously announced ⅛ and ¼-in. NPT sizes, larger ⅜ and ½-in. NPT pneumatic and hydraulic valves are offered in two, three and four-way types. Readily disassembled for servicing with screwdriver without disturbing connections, controls feature nonextruding O-ring seals, balanced-pressure spools, and full-flow design. Pressure range is up to 200 psi. Made by **Versa Products Co.,** 251 Scholes St., Brooklyn, N. Y.

▲ For more details circle NED-85 G3 on enclosed inquiry slip ▲

POTENTIOMETERS plunger type for electronic control



Constant cutting speed machine tool drives, winder drives, processing machinery and "dancer roll" systems are potential applications for bulletin 68 plunger potentiometers, intended for introduction into industrial electronic control devices. The vitreous enameled resistance element and precious metal sliding contact are protected by an oiltight enclosure with external mounting holes. Operating plunger, with its roller type cam follower, requires only ½-in. linear movement for complete traverse of the 10,000-ohm potentiometer. Made by **Ward Leonard Electric Co.,** 51 South St., Mt. Vernon, N. Y.

▲ For more details circle NED-86 G3 on enclosed inquiry slip ▲

BOLTS & CAP SCREWS
SOCKET, SET & CAP
NUTS, WASHERS
MACHINE SCREWS
SHEET METAL SCREWS
WOOD SCREWS
PIPE FITTINGS

WRITE, WIRE or PHONE FOR YOUR CATALOG Today

- Class 3 Screws
- AN Drilled Fillister Heads
- AN WASHERS
- Studs, Standard & Special
- Special Screw Machine Products

Star STAINLESS SCREW CO.
ARmory 4-1240
214 Union Avenue • Paterson 2, N. J.
Direct New York Telephone: Wisconsin 7-9041

▲ For more details circle NED-87 G3 on enclosed inquiry slip ▲

In SHOP BOXES little things make a BIG difference!

STYLE A

...you'll benefit from these UNION METAL advantages

- **Built-In Wear Runners** give years of extra wear at no extra cost.
- **One-Piece Bottom and Ends** for added strength where it's needed most.
- **14-Gauge One-Piece Drawn Angle Corners,** more sturdy than the conventional **flat strips.**
- **Flexible Tooling** permits special box dimensions without premium prices.
- **Prompt Shipment** on all common and unusual types of steel shop boxes.

Send for Bulletin MH-807A for information and dimensional data. Address The Union Metal Manufacturing Company, Canton 5, Ohio.

UNION METAL
Material Handling Equipment

▲ For more details circle NED-88 G3 on enclosed inquiry slip ▲

Speed Up Material Handling

Here's a handy, mobile crane for lifting or loading jobs around your plant. Ideal for dismantling, moving or erecting machinery . . . loading and unloading structural iron, pipe, bars, lumber and equipment of all types. The UNIT 357 is self-propelled . . . rides on rubber at road travel speed . . . is easy to maneuver even in cramped yard conditions. Operated by ONE man . . . powered by ONE engine . . . swings in a 360° circle. Full vision cab gives complete visibility. Promotes Safety. Write for Catalog.

UNIT CRANE & SHOVEL CORP.
6607 W. Burnham Street, Milwaukee 14, Wis., U. S. A.

CRANES • CLAMSHELLS • MAGNETS

▲ For more details circle NED-89 G3 on enclosed inquiry slip ▲

AN INDISPENSABLE FIRST-AID INSTRUMENT

G-S EYE SWEEP

Double Purpose

MAGNET AND LOOP

For removing metallic particles, dirt, chips, any foreign matter from the eye. **$2.50**

Magnetic tip easily picks up the smallest piece of iron or steel. Flexible loop is very convenient for removing cinders, dirt and non-magnetic particles.

Sterilization will not affect magnetic properties or loop. A hard rubber carrying case is provided with each G-S Eye Sweep.

ORDER TODAY DIRECT OR SEND FOR COMPLETE DATA

A DEPENDABLE GUIDE TO SAFETY
GENERAL SCIENTIFIC EQUIPMENT COMPANY
TESTED INDUSTRIAL SAFETY PRODUCTS

2701 W. Huntington St., Philadelphia 32, Pa.
RESPIRATORS • PUMPS • GOGGLES • SHIELDS • GLOVES • APRONS • HELMETS

▲ For more details circle NED-90 G3 on enclosed inquiry slip ▲

Drills at your fingertips—
HUOT DRILL DISPENSER

Why rummage through a box full of drills when the Huot Drill Dispenser will keep them sorted by sizes? Each compartment holds many drills—several dozen in the smaller sizes. Beautiful light gray hammerlin baked enamel finish. *Made in three models for fractional, number and letter drills.*

Write for Drill Dispenser Bulletin

HUOT DRILL INDEX

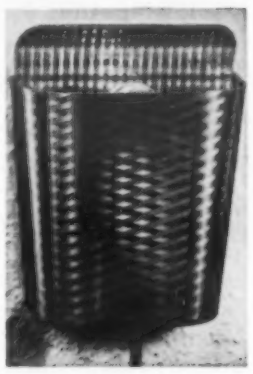
The simplest filing system for all twist drills. Panels fold into container like pages of a book. Seventeen models for drills from No. 80 wire gauge to 1-inch size.

HUOT

HUOT MANUFACTURING CO.
571 North Wheeler Street, St. Paul W4, Minn.

For more details circle NED-91 G3 on enclosed inquiry slip

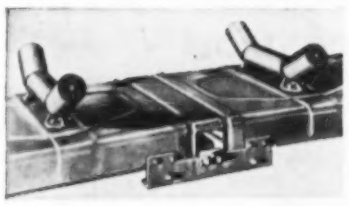
DEODORIZER
has 4-watt ozone lamp



Klenz-Aire deodorizer makes use of 4-w ozone lamps in a chrome wall fixture measuring 6½ in. high and equipped with an 8-ft cord. Operation is on 110-125 v ac. Operating 24 hr per day, lamp has 4000-hr or 6 month life. Units are available with one, two and three lamps for areas of 1000, 2000 and 3000 cu ft, respectively. Made by **General Mfg. & Distributing Co.,** Specialties Div., Quincy, Mich.

For more details circle NED-94 G3 on enclosed inquiry slip

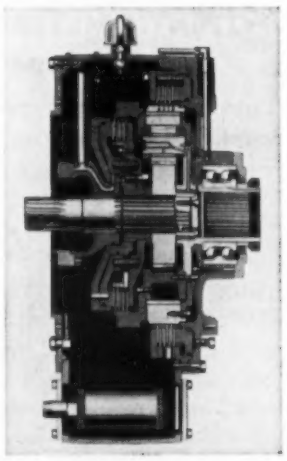
IDLERS & RETURN ROLLERS
closed upper ends are dustproof



Closed upper end and greased labyrinth of these M & C troughing idlers and return roller units prevent grit, dust and dirt from entering bearings. Idlers which are available in full range of sizes are made of seamless steel with smooth finish. Special SKF ball bearings and method of mounting reduce friction to minimum. Conveyors are made of close grained cast iron for corrosion and abrasion resistance. Available from **Hambro Trading Co. of America,** Hambro Machinery Div., Dept. NED, 17 E. 54th St., New York 22, N. Y.

For more details circle NED-95 G3 on enclosed inquiry slip

TWO-SPEED TRANSMISSION
improves torque converter operation



Engineered to improve performance of hydraulic torque converters, model T-302 oil-actuated two-speed transmission is equipped with a direct drive and single stage planetary gear system. Direct drive and 2.69:1 reduction, or direct drive and 3.07:1 reduction are provided. Shifting is eased through use of hydraulically-actuated multiple-disk clutches with operating positions of neutral, high or direct drive and low or reduction gear drive. All positions are controlled from spool-type valves mounted on top of transmission. Packaged unit is easy to install and maintain. Made by **Twin Disc Clutch Co.,** Hydraulic Div., Dept. ND-2, Rockford, Ill.

For more details circle NED-96 G3 on enclosed inquiry slip

Rubber Expansion Joints . . .

Rubber Expansion Joints shown are just a few of the many furnished to a public utility, but adaptable to any pipeline installation for transporting liquids or gases where the temperature does not exceed the range of -10°F. to 200°F. For other temperature conditions, consult our engineers.

With a backlog of more than half a century of experience, La Favorite "know-how" is daily solving many complex problems which involve protection from corrosion and abrasion. Consult La Favorite Engineers, without obligation on your part.

Send blue prints for estimate on costs.

2340

LA FAVORITE RUBBER MFG. CO.
273 Wagaraw Road • Hawthorne, N. J.
RUBBER LININGS • RUBBER COVERING • RUBBER ENGINEERING

For more details circle NED-92 G3 on enclosed inquiry slip

VERTICAL or HORIZONTAL

THE MOST
COMPACT CONVEYOR
FOR BULK MATERIALS

FORT WORTH Screw Conveyors and vertical Screw Elevators provide the most compact means of conveying or elevating bulk materials, such as grain and other free flowing products. Space occupied is less than half that of most other types of conveyors.

Vertical screw elevators are used to lift materials up to 70 feet, depending on the nature of the product.

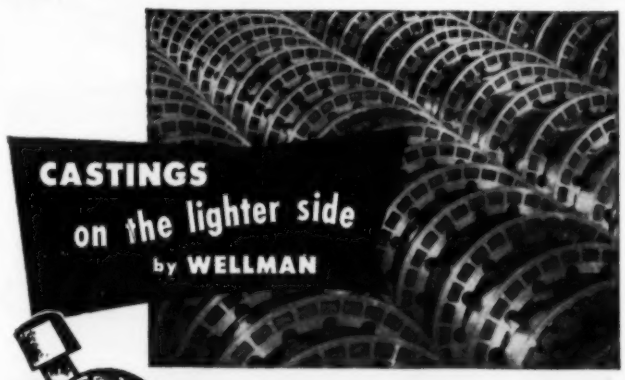
Initial cost is low.
A minimum amount of upkeep is required.

WRITE FOR CATALOG 200B

OTHER FORT WORTH PRODUCTS
V-BELT DRIVES
SCREW CONVEYORS and ACCESSORIES
SCREW ELEVATORS
INDUSTRIAL FANS

FORT WORTH STEEL & MACHINERY CO.
Dept. 227, 3600 McCart St., Fort Worth, Texas

For more details circle NED-93 G3 on enclosed inquiry slip



CASTINGS on the lighter side by WELLMAN

If you're thinking along the lighter side about the whole subject of magnesium and aluminum castings, think about Wellman as a source.

Let us show you how our four complete plants and almost a half century of experience can help you. Write for our new catalog No. 53.

Well-Cast MAGNESIUM AND ALUMINUM CASTINGS
Well-Made WOOD AND METAL PATTERNS

THE WELLMAN BRONZE & ALUMINUM CO.
Dept. 15, 12800 Shaker Boulevard Cleveland 20, Ohio

For more details circle NED-97 G3 on enclosed inquiry slip

WHAT ARE YOUR *MAGNETIC SEPARATOR* PROBLEMS?

Remington Rand, Inc., Tabulating Machine Division, Ilion, New York, are one of many manufacturers using Homer Magnetic Separators to cut sorting and handling costs in the processing of ferrous metal parts.

In the operation above, ferrous tabulating machine parts are quickly sorted from abrasive tumbling stones, saving many valuable man hours, and permitting the handling of larger quantities of finished parts. If you have a similar problem—consult us at once—Homer Engineers will be glad to recommend the type of magnetic equipment you need. Bulletins upon request.

Homer **The HOMER MANUFACTURING CO., Inc.**
DEPT. I-25 LIMA, OHIO

Producers of Magnetic Separator Equipment Since 1923

For more details circle NED-98 G3 on enclosed inquiry slip

NON-STICKING! TIGHT CLOSING!
—no pressure build-up

DAVIS NO. 13
AUTOMATIC PRESSURE REDUCING VALVES

- **FOR MANY USES—** No. 13 regulator designed for reduced flow requirements in heating equipment, vulcanizers, molding presses, steam kettles, etc.
- **EXCLUSIVE DESIGN—** Single seated, tight closing, non-sticking. Large diaphragm, sensitive pressure adjustment. Compact, rugged, self-contained. Orifice type insures high lift, low maintenance.
- **TROUBLE-FREE SERVICE—** Built-in Strainer, finest quality, all internal parts accessible and renewable without disturbing piping.
- **FOR STEAM, AIR OR GAS—** For initial pressures to 250 p.s.i.; reduced pressures, 1 to 100 p.s.i. Sizes from ⅜" to 2". Bronze or semi-steel bodies; bronze or stainless trim. Economical for use on small units. *Write for Bulletin 100-A.*

DAVIS REGULATOR CO.
Established 1875
2531 WASHTENAW AVE. CHICAGO 8, ILL.

For more details circle NED-99 G3 on enclosed inquiry slip

GET THIS NEW GUIDE TO **TUTHILL** GENERAL-PURPOSE PUMPS

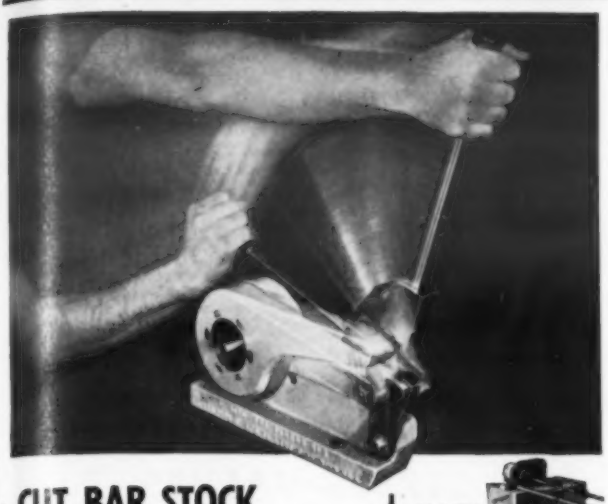
- For Design
- For Production
- For Maintenance

The new Tuthill Catalog No. 102 provides a handy reference on general purpose pumps to fill your individual needs. It includes complete data on mechanically-sealed units, automatic reversing types, stripped pumps for built-in applications and other variations to meet specific requirements. You'll save time, trouble and money with this information.

Write today for Tuthill Catalog No. 102.

TUTHILL PUMP COMPANY
Dependable Rotary Pumps since 1927
939 East 95th Street, Chicago 19, Illinois
Canadian Affiliate: Ingersoll Machine & Tool Company, Ltd. Ingersoll, Ontario, Canada

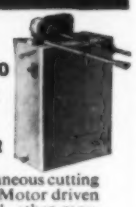
For more details circle NED-100 G3 on enclosed inquiry slip



CUT BAR STOCK up to 5/8" Diameter

Accurately, Instantly, Easily with DI-ACRO* ROD PARTER

The DI-ACRO Rod Parter with its shearing-breaking action allows most bar stock to be cut without burr and distortion. Cutting heads accommodate eleven different round stock sizes. Also special heads for cutting square, and other shaped bars.



DI-ACRO POWER ROD PARTER

Instantaneous cutting action. Motor driven flywheel, other moving parts housed in welded steel cabinet.

*pronounced Die-ack-ro

WANT MORE INFORMATION? *Send for 32-Page Catalog*

di-acro PRECISION METALWORKING MACHINES

O'NEIL-IRWIN MANUFACTURING CO.
354 8th Avenue, Lake City, Minnesota

For more details circle **NED-101 G3** on enclosed inquiry slip

---

CANTILEVER CARRIER
handles loads beyond end of crane

Cantilever arrangement of this overhead carrier allows unit to handle loads beyond end of crane on which the carrier operates. Carrier is designed for handling in areas between roof-supporting pillars and for reaching through doorways. Hoist reaches out as much as 2 ft, 1½ in. beyond end of crane. Unit has capacity of 1500 lb. Other carriers of different load capacities and reach can be made to suit conditions. Made by **Cleveland Crane & Engineering Co.,** 1143 E. 283rd St., Wickliffe, O.

For more details circle **NED-104 G3** on enclosed inquiry slip

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SAFETY TOE CAPS
fit all square toe and bulldog shoes

Making possible the quick conversion of square toed or bulldog type shoes into safety toe types, StaSafe steel toe clips can be quickly nailed to any standard shoe. Units are squeezed in a vise to the desired shape, and then nailed to the shoe welt through two holes in the mounting flange. Models are also available with spring and wire mounting for intermittent wear. Made by **Standard Safety Equipment Co.,** Dept. N, 232 W. Ontario St., Chicago 10, Ill.

For more details circle **NED-105 G3** on enclosed inquiry slip

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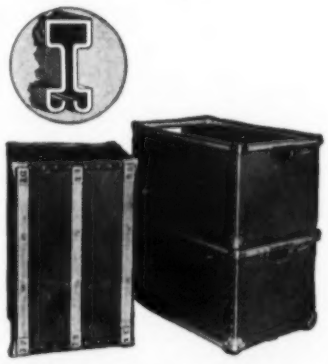
SHOP BOXES
"bulge-corners" permit stacking

By making line of mill boxes with "bulge-corners" they can be stacked even though they contain materials. The molded bulge offers a smooth surface reinforcement and prevents jamming. A formed top rail adds strength and rigidity and permits a good grip in handling. Boxes have hole type handles, hardwood slat reinforcement on bottom and are built of vulcanized fiber. Made by **William Bal Corp.,** 11 Johnson St., Newark 5, N. J.



For more details circle **NED-106 G3** on enclosed inquiry slip

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with AURAND CLEANING TOOLS

Clean off accumulations of scale, paint, rust or any foreign matter from any hard surface with Aurand Cleaning Tools. Toothed cutting wheels, loose pinioned on rotating head chip away accumulations at high speed. Positive depth shoe prevents cutting into permanent surface and assures uniform cleaning of entire area.

Two sizes in electric or pneumatic models.

For full details, write Dept. 14

AURAND MFG. & EQUIP. CO.
2643 Colerain Avenue • CINCINNATI, OHIO

For more details circle **NED-108 G3** on enclosed inquiry slip

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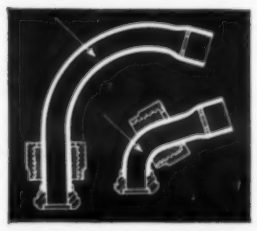
Tube Talk — THE "HOW-TO" COLUMN



PROBLEM: To find seamless tubing that was bright, free of scale, heat-resistant, and suitable for bending and swaging by Titeflex, Inc., Newark, N.J.

Application: 90° elbow fittings of high quality for aircraft and ordnance engine applications.

SOLUTION: Superior Tube Company's 321 Stainless Steel Tubing—7/16" O.D. x .035" wall; purchased through local distributor.

RESULT: Superior 321 Stainless reduced rejections due to scaling, met rigid specifications, including bending and swaging requirements; withstood manufacturing heat of 1700°-1800°F.

Use of Superior tubing stepped up production and increased quality.

Suggestion—Write for information and literature today.

SUPERIOR TUBE COMPANY
2018 Germantown Ave., Norristown, Pa.

For more details circle **NED-102 G3** on enclosed inquiry slip

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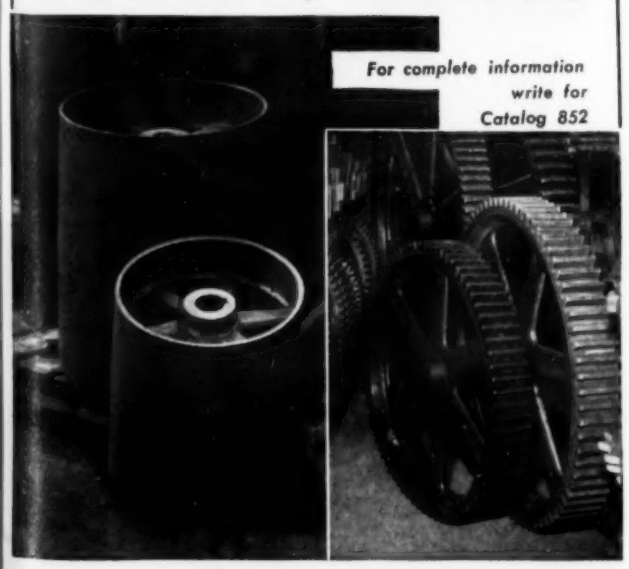
BELT CONVEYORS, PULLEY, GEARS



For complete information write for Catalog 852

THE JEFFREY MANUFACTURING CO.
Columbus 16, Ohio

IF IT'S MINED, PROCESSED OR MOVED ...IT'S A JOB FOR JEFFREY!

sales offices and distributors in principal cities

For more details circle **NED-103 G3** on enclosed inquiry slip

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WHEN YOU PUT A LOT OF LITTLE ONES INTO A BIG ONE — MAKE SURE IT'S A

JELLIFF DIPPING BASKET

70 years making Wire Mesh have taught us a lot about this material, its fabrication, and uses.

We make Dipping Baskets of any ductile metal, and in any size and shape your products and process require . . .

Naturally we believe we make them just a little bit better than the other fellows do — and a lot of people who turn to us regularly for their Dipping Baskets seem to agree with us.

So—for Degreasing—Pickling—Plating Anodizing — Washing — Heat Treating — or for just plain Bulk Handling or Storage of small parts in large quantities, let JELLIFF give you a no-cost no-obligation estimate for your next requirement of Dipping Baskets. Send a blueprint or specifications to Department 11.

THE C. O. JELLIFF MFG. CORP.
DIPPING BASKETS · LEKTROMESH · RESISTANCE WIRE
WIRE MESH PARTS · WIRE CLOTH · STRAINERS • FILTERS
SOUTHPORT CONNECTICUT
WIRE PRODUCTS SINCE 1860

For more details circle **NED-107 G3** on enclosed inquiry slip

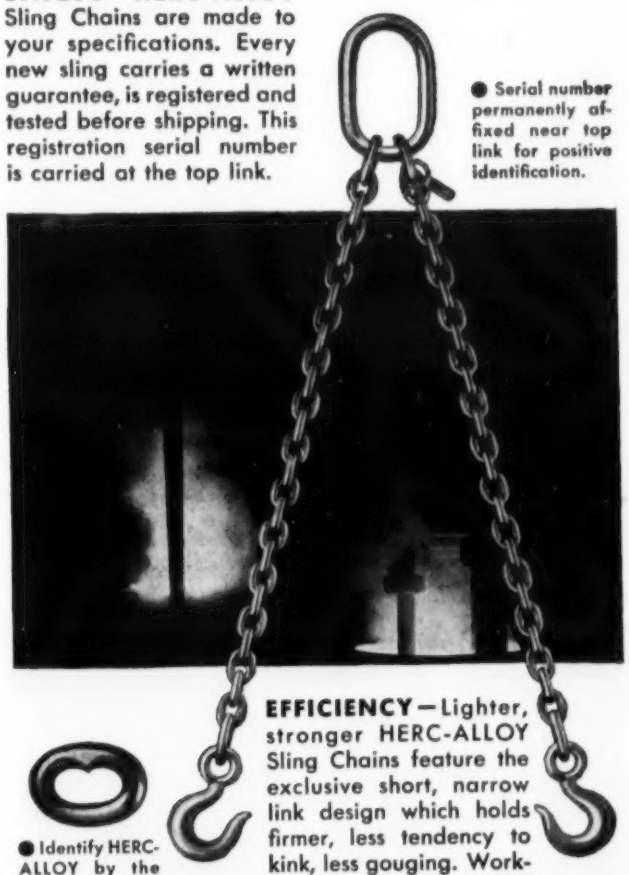
---

NONE BETTER...
America's First and Safest
HERC-ALLOY SLING CHAINS

STRENGTH—Size for size, no other sling chain offers a greater tensile strength. HERC-ALLOY will not crystallize—never requires annealing.

SAFETY—HERC-ALLOY Sling Chains are made to your specifications. Every new sling carries a written guarantee, is registered and tested before shipping. This registration serial number is carried at the top link.

● Serial number permanently affixed near top link for positive identification.



● Identify HERC-ALLOY by the patented Inswell side weld with the extra swell of metal on the inside of the link.

EFFICIENCY—Lighter, stronger HERC-ALLOY Sling Chains feature the exclusive short, narrow link design which holds firmer, less tendency to kink, less gouging. Workmen handle HERC-ALLOY with less effort.

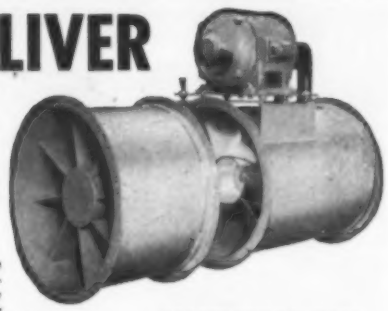
PREFERENCE—Men who buy and use sling chains are influenced only by facts learned through experience. HERC-ALLOY Sling Chain preference has been built up over the years, not just by what we say, but by how HERC-ALLOY performs on the job.

Write for Data Book No. 3 which contains much useful manufacturing and application information on HERC-ALLOY Sling Chains.

COLUMBUS McKINNON CHAIN CORPORATION
(Affiliated with Chisholm-Moore Hoist Corp.)
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
District Offices: New York • Chicago • Cleveland
Other Factories at Angola, N. Y., Dixon, Ill., St. Catharines, Ont., Can., and Johannesburg, South Africa.

For more details circle **NED-109 G3** on enclosed inquiry slip

WE DELIVER AIR



Industrial Air units are simple to install and maintain. Bearings and drive are completely protected from the exhaust air and can be replaced or serviced without removing the unit from the system. Available to your job needs and specifications, either direct or belt driven units, sizes from 12" to 48", motors from ⅛ H.P. to 50 H.P. Static pressure up to 4", 1,000 to 65,000 C.F.M.

VANEAXIAL FAN

Illustration shows installation of vanes on the discharge side of propeller. Waste energy is converted to useful work. The guide vanes straighten out the air stream, assuring a true axial flow of air.

TUBEAXIAL FAN

Designed especially for the critical and toughest ventilation or exhaust problem. May be connected to inlet or outlet duct, or both, as the installation may require.

Represented in all principal cities

Write Dept. 301 For complete catalog

THE HARVEY P. BERTRAM CO.
561-565 READING ROAD - CINCINNATI 2, OHIO

For more details circle NED-110 G3 on enclosed inquiry slip

TO THE INGENIOUS

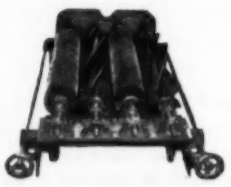
Not familiar with this

NEW INDUSTRIAL TOOL

Free Sample of Fullergript Brush Strip

What problems can you solve by adapting Fullergript to your equipment?

This brush strip can be coiled or twisted into numerous shapes. It can be formed to give intermittent or continuous brushing action. It adapts to stationary or power driven applications. How it may help *you* is a matter of your own ingenuity — plus the services of the Fuller Brush Engineering Dept. Find out what Fullergript can do by sending for a sample strip. We will also send a booklet showing its versatility. Simply write today.



The economy of continuous operation made possible by continuous scrubbing to remove hard baked deposits from steel conveyor in bake oven. Power driven unit applies action through two types of Fullergript brush strip.

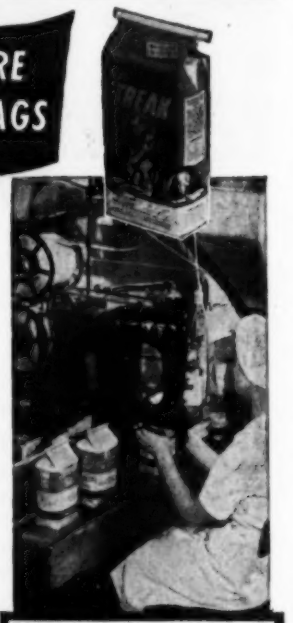
INDUSTRIAL Fuller BRUSH CO. DIVISION

3530 MAIN STREET • HARTFORD 2, CONN.

Power driven brushes, Factory & Institutional cleaning tools, Waxes & Detergents

For more details circle NED-111 G3 on enclosed inquiry slip

A BETTER CLOSURE for SMALL PAPER BAGS



UNION SPECIAL'S Style 60000 D bag closing machine, producing the exclusive Dubl-Tape closure, is designed to speed packaging . . . cut costs . . . and improve appearance.

- **FAST—Speed to match output of standard filling and weighing equipment.**
- **NEAT—Produces an eye-pleasing, sales-stimulating package with high merchandising value.**
- **ECONOMICAL—Operating cost per bag is at a minimum . . . uses inexpensive cotton thread and paper tape.**
- **VERSATILE—Adjustable for a wide range of bag sizes, short or long runs.**

Write for BULLETIN No. 100 to get the complete facts on this machine . . . and how it can do a better closing job for you.

UNION SPECIAL Dubl-Tape CLOSURE

Union Special MACHINE COMPANY

416 N. Franklin Street • Chicago 10, Illinois

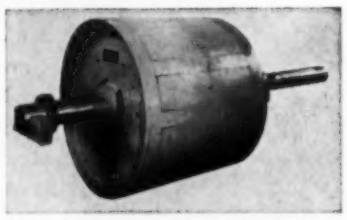
For more details circle NED-112 G3 on enclosed inquiry slip

BIN STORAGE UNITS
shelves are instantly adjustable

Developed to provide versatility and flexibility in storing small parts, bin units are available in green, gray or tan baked enamel finishes. Any number can be bolted together into a single rigid combination. Bins are 36½-in. wide, 12½-in. deep and 84-in. high, and bin shelves are easily adjustable in increments of 1½-in. Shelves have heavy-duty lugs at each corner which fit into slots in the front uprights and back formation, providing rigid four-point suspension. Made by **Republic Steel Corp.**, Berger Mfg. Div., 1000 Belden Ave. N.E., Canton 5, O.

For more details circle NED-113 G3 on enclosed inquiry slip

PERMANENT MAGNETIC PULLEY
for use with 300-fpm belt



Made of Alnico V, this permanent magnetic pulley has a 42-in. diameter, 38-in. crown face and will accommodate a 36-in. belt width. Reportedly the largest permanent magnet pulley ever made, it is designed to process run-of-mine coal up to 10-in. lump size at a belt speed of 300 fpm at a rate of 300 tons per hour. Made by **Stearns Magnetic, Inc.**, 653 S. 28th St., Milwaukee 46, Wis.

For more details circle NED-114 G3 on enclosed inquiry slip

EXPENDABLE PALLETS
made of paper fibre material

Economical and flexible to use, Fiber-Weld expendable pallets of paper fiber material are adaptable to a variety of load conditions. Pallet is made of

honeycomb material of different thicknesses, glued to fiber board and faced with same material on each side. Supporting posts or legs are made of honeycomb material and range in size from 4 to 12 in. square. Pallets can be used with palletizing glues or with paper or metal strapping of load to pallet. Made by **Fiber-Weld Corp.**, 153 E. Venango St., Philadelphia 34, Pa.

For more details circle NED-115 G3 on enclosed inquiry slip

EVERY ENGINEER will want a copy of this BULLETIN

SEND FOR BULLETIN 110

• It's easy to get the right cylinder for even the most special jobs when you use Hannifin's big hand-book on HYDRAULIC CYLINDERS. 52 pages of helpful specification and engineering data, complete with diagrams and dimensions. The Hannifin line is complete! 12 standard bore diameters, 1" to 8". . . any length stroke you specify . . . 11 standard mounting styles . . . standard, double end or heavy duty (2:1) piston rods . . . available with adjustable cushions . . . pressures to 1500 lbs. per sq. in. Send for Bulletin 110. Hannifin also builds custom cylinders in any quantity to special designs. *Bring us your cylinder problems!*

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1127 S. Kilbourn Ave., Chicago 24, Ill.

Air and Hydraulic Cylinders • Presses • Air Control Valves

For more details circle NED-116 G3 on enclosed inquiry slip

Get this handy table on MAXIMUM ALLOWABLE STRESS VALUES for B&W Seamless & Welded Carbon, Alloy, and Stainless Steel Tubing and Pipe

Factual technical data at your fingertips, including formula for determining maximum allowable working pressures.

Write for Technical Data Card 154 TA-1770 (LA)

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
Beaver Falls, Pa. • Seamless Tubing; Welded Stainless Steel Tubing
Alliance, Ohio • Welded Carbon Steel Tubing

For more details circle NED-117 G3 on enclosed inquiry slip

NEW LOW PRICE ON NESTIER®

means greater savings than ever!

Increased sales and production of NesTiers enable us to offer you these remarkably efficient materials handling containers at a new low price you can't afford to ignore.

Even at their former price, NesTiers have been a major economy factor in every type of manufacturing plant. Now, with initial cost reduced, their savings potential is *greater than ever before!*

IT NESTS

IT TIERS

REMEMBER—
NesTiers are the *standard* shop boxes that do *every small parts handling job*—adapt perfectly to all methods of transportation—eliminate need for changing containers when dipping or degreasing!

THE CHAS. WM. DOEPKE MANUFACTURING CO., Inc.
Metal Specialties Division
ROSSMOYNE, OHIO

WRITE NOW FOR FREE DESCRIPTIVE CATALOG

For more details circle NED-118 G3 on enclosed inquiry slip

Sheehan's

SPECIAL APPLICATION

HOT FORGING CONVEYORS

SAVE TIME—SPEED PRODUCTION AND SAVE YOU MONEY

Cost Less To Run— *Less To Maintain*

It is no longer necessary to waste manpower and valuable time handling hot forgings in the nut and bolt, and allied industries. This unusual Sheehan conveyor hugs the floor at an eleven inch height and picks up forgings on a heavy duty, high carbon, Steel Woven-Mesh Belt. 75 degree incline provides maximum lift in minimum space. Positive drive, spike-studded pulley at drive-end of belt eliminates all slippage due to heat expansion. Open mesh belt provides cooling of forgings and allows scale to fall through.

Built to withstand continuous performance at peak loading, a Sheehan conveyor can handle your forgings problems with ease, and do it economically too.

COMING SOON . . . MORE UNUSUAL CONVEYORS BY SHEEHAN.

Send today for complete literature on the Sheehan line of Forging Conveyors. No obligation, of course.

▲ For more details circle NED-119 G3 on enclosed inquiry slip ▲

MODERNIZE WITH TRIPLETT METERS

A SIZE, TYPE, AND STYLE FOR EVERY INSTALLATION

Your instrumentation is strictly modern in design and construction with Triplett Meters. You can have sizes 2" to 7" in a wide variety of case shapes and mounting arrangements, A.C., D.C., R.F., Rectifier or Dynamometer. Molded and metal cases, rear illumination, and other special features are available. For precision and economy virtually every meter part is made in Triplett plants under rigid humidity and dust control. Every meter represents the refinements gained in half a century of meter experience. Keep *your* panels up-to-the-minute with Triplett Meters—famous the world over for quality, accuracy, and dependability.

Triplett Electrical Instrument Co. Bluffton, Ohio, U.S.A.

FOR THE MAN WHO TAKES PRIDE IN HIS WORK

Triplett

TRIPLETT ELECTRICAL INSTRUMENT CO. BLUFFTON OHIO U.S.A.

▲ For more details circle NED-120 G3 on enclosed inquiry slip ▲

FOR TOP-QUALITY FORGINGS FOR THE DC-6

Douglas counts on FLASH-O-LENS inspection

Soundness of forgings for the DC-6 can be determined more readily by using FLASH-O-LENS, reports Douglas Aircraft Co.

THE REASON: This handy device *spotlights* the work and *magnifies* it in sharp detail. Interpretation of grain structure — key to forging quality — is speeded up ... results are more accurate.

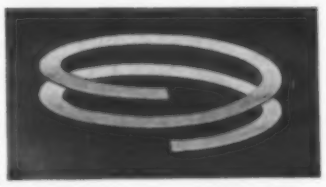
You too may find that FLASH-O-LENS will save inspection time and improve product quality. Battery and plug-in models available — write for literature.

E. W. PIKE & COMPANY

492 NORTH AVE. ELIZABETH, N. J.

▲ For more details circle NED-121 G3 on enclosed inquiry slip ▲

BACK-UP RINGS
Teflon type prevent O-ring shedding



Spirally machined from Teflon and designed to prevent extrusion of O-ring seals, these back-up rings have high impact strength at temperatures from −100 to 500° F. They are also noncorrosive, nonfraying and are self-lubricating and inert to most chemicals. They are made for all O-ring sizes to AN drawings 6227 and 6230 by **Garlock Packing Co.**, Dept. 34, 300 Main St., Palmyra, N. Y.

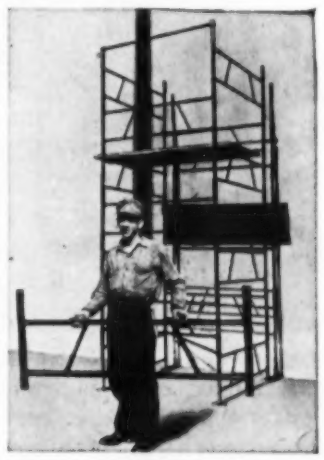
▲ For more details circle NED-122 G3 on enclosed inquiry slip ▲

FIRE EXTINGUISHER
uses fast-flowing dry chemical

A fast-flowing dry chemical extinguishant called Dri-Kem is utilized by this Redi-Flo fire extinguisher, and is the key to unit's nonclogging operation. Chemical has consistency of refined powder, flows freely and will not cake. It is moisture-free, moisture-resistant and is nonconductive. Nonclogging is further assured through use of moisture-free nitrogen as pressurizing agent and flat, wide-mouthed dispersion nozzle. Unit's light weight, squeeze grip and trigger release valve which is cocked with flick of thumb allow for one-hand operation. Units are offered in 3, 5, 10 and 20-lb models with dispersions of 5 to 10 ft, 10 to 20 ft, 10 to 25 ft and 10 to 30 ft, respectively. Made by **Stop-Fire, Inc.**, 127 Ashland Pl., Brooklyn 1, N. Y.

▲ For more details circle NED-123 G3 on enclosed inquiry slip ▲

SCAFFOLDING UNITS
are erected without tools

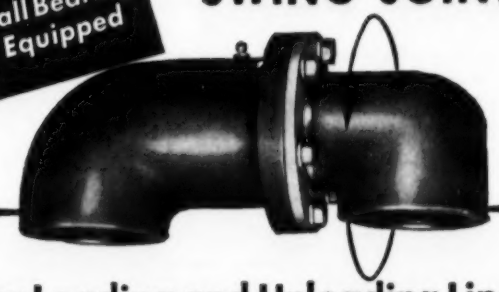


Slip-fit design permits these frame scaffolding units to be joined without use of fasteners. Four standardized frames form a 5-ft square section 4 ft high, and multiples of such sections form towers, long runs of scaffolding, or any structure desired. The units are useful for all types of plant maintenance and building repairs as well as in construction work. The basic frame weighs 24 lb, and is load-tested at 400 psi. Various accessories are available. Made by **Sharon Steel Corp.**, Brainard Steel Div., 3100 Griswold St., Warren, O.

▲ For more details circle NED-124 G3 on enclosed inquiry slip ▲

NEW! Ball Bearing Equipped

BARCO SWING JOINTS



for Loading and Unloading Lines

BARCO'S new, attractively priced, all-steel ball bearing *Swing Joints* are specifically designed to provide for movement and flexibility in metal pipe loading and unloading lines handling gasoline, oil, alcohol, chemicals, and other fluids.

11 DIFFERENT STYLES—Barco offers single swing, double swing, and counterbalance styles to meet every need. Sizes 2", 2½", 3", 4".

SUPERIOR DESIGN—The ball bearings will not fall out when joints are taken apart. Long bearing provides adequate pipe support. Special O-ring seal insures leakproof service over wide temperature range, −40°F to +225°F.

INFORMATION—Send for latest Catalog No. 400 and engineering information. BARCO MANUFACTURING CO., 530H Hough St., Barrington, Illinois.

A Chicago Suburb

▲ For more details circle NED-125 G3 on enclosed inquiry slip ▲

If it has a hole through it YOU CAN HANDLE IT FASTER with the SABIN Coil TRUCK

A handy truck and a real labor saver in handling Wire Coils, Strip Coils, Wheels, Tires, Lathe Chucks or Face Plates—in fact anything with a hole through it.

You simply run truck up to article, passing arm through hole—then an easy pull back on handle picks up load. Follower wheel minimizes trucking effort.

We also manufacture many other types of One Man Trucks. *WRITE FOR BULLETIN NO. 48*, showing complete line.

THE SABIN MACHINE CO.
6536 Carnegie Ave.
CLEVELAND 3, OHIO

▲ For more details circle NED-126 G3 on enclosed inquiry slip ▲

FOR MATERIAL HANDLING—

more and more—the swing is to wide-base pneumatic tires

GENERAL

INDUSTRIAL PNEUMATIC TIRES

More Designers are specifying wide-base General Pneumatics. They know Generals add these extra selling points to handling equipment.

SAVE TIME · MONEY · LABOR

- MORE LOAD CAPACITY AT LOW OR HIGH SPEEDS
- CUSHION EQUIPMENT AND LOADS REDUCING BREAKAGE AND SPILLAGE
- SAVE HIGH COST FLOORS AND FLOOR SURFACES
- SLOW, EVEN WEAR FOR LONG SERVICE
- HIGH FLOTATION FOR EASIER ROLLING OVER SOFT GROUND
- ROLLS EASIER, SMOOTHER OVER ALL SURFACES

Available separately or in assemblies of Tires, Tubes and Wheels. Size O.D. 8" to 27"—200 to 4000 lbs. cap. for low or high speeds.

THE GENERAL TIRE

Rigid CASTER FORKS *Swivel*

Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

SEND FOR CATALOG . . . DEPT. 4

THE GENERAL TIRE & RUBBER CO. AKRON, O.

▲ For more details circle NED-127 G3 on enclosed inquiry slip ▲

IF IT'S GEARING YOU'RE HEARING ..TRY CELORON

A Celoron gear is a silent gear. It eliminates metal-to-metal contact . . . builds silence into your products.

There is a difference in plastic gear stock. Celoron is a special canvas-based laminate made by C-D-F, sold in 39" x 46" sheets, with thicknesses up to 9". Celoron is easily cut into gears of high tooth strength, excellent impact strength and resiliency. These gears require little lubrication and are unaffected by high heat or moisture.

Write for Celoron specifications and gear cutting information. If you wish a sample, tell us about your application.

THE NAME TO REMEMBER...CELORON GEAR STOCK

Continental-Diamond Fibre Company

NEWARK 30, DELAWARE

▲ For more details circle **NED-128 G3** on enclosed inquiry slip ▲

DRY PHOTOCOPIES AUTOMATICALLY!

ALL ELECTRIC!

APECO Systematic *Auto-Stat*

ONE UNIT DOES IT ALL!

Makes photo-exact copies direct from original letters, forms, bids, contracts, invoices, catalog sheets, reports, blueprints.

Yes—now a dry photocopy from any original in less than 45 seconds without any additional equipment. The Apeco Systematic Auto-Stat prints, processes and dries automatically . . . copies are ready for instant use. It saves up to 80% on copying jobs. Eliminates costly re-typing, hand copying, checking or expensive outside copying service. It's fast—only 2 steps will make legally accepted prints from any original up to 11 x 17 inches—printed on one or two sides.

SO LOW COST

A complete Apeco Systematic Auto-Stat installation is priced well within the budget of even the smallest firms. Remarkably low operation cost, too!

EXPOSE!

PROCESS!

COPIES PEEL APART!

MAIL TODAY!

HAVE YOU READ THIS NEW FREE BOOK?

AMERICAN PHOTOCOPY EQUIPMENT CO.
Dept. NED-73
2840 North Clark Street, Chicago 14, Ill.

Please rush me, without obligation, your factual report on office copying. I understand this free booklet pictures and tells the complete Auto-Stat story and shows how I can use Apeco Auto-Stat in my office.

Name_____
Firm_____
Address_____ Zone____ State____
City_____

Offices in All Principal Cities

Manufactured in the U.S.A. by
AMERICAN PHOTOCOPY EQUIPMENT CO. 2840 N. CLARK STREET CHICAGO 14, ILLINOIS

▲ For more details circle **NED-129 G3** on enclosed inquiry slip ▲

COOLANT PUMP UNIT
100 gph capacity at 1-ft head

Self-contained motor driven coolant pump is powered by a unitized 1/30-hp oil sealed motor and operates efficiently with all types of water-soluble coolants and oils up to 20 SAE viscosity. The unit is rated at 100 gph at 1-ft head. The inlet pipe has a ½-in. opening and is equipped with an automatic foot valve to hold prime. Unit is 3-lb in weight, and measures 4¼-in. diameter x 15-in. high. The housing is heavy duty brass, and the spout is flexible spring steel tubing connected to a copper shut-off cock. Made by **Viking Industries,** Dept. J, 220 Montague St., Rockford, Ill.

▲ For more details circle **NED-130 G3** on enclosed inquiry slip ▲

DECIMAL EQUIVALENT DECAL
applies to drawing equipment

Showing decimal equivalents in 64ths, this 6 x 1¼-in. decal is available without cost for application to slide rules, T-squares, drawing boards, desk tops

and similar drawing equipment. Easy-to-read figures are printed in sharp black and red type on white background. Offered by **Meyercord Co.,** Dept. NE8, 5323 W. Lake St., Chicago 44, Ill.

▲ For more details circle **NED-131 G3** on enclosed inquiry slip ▲

STEEL SHEAR
turntable adds to versatility

Capable of cutting mild steel up to 1 in. thick and 4 ft long, the All-Steel shear is mounted on a turntable that is rotated by a circular rack and pinion. It eliminates much handling of large plates and coiled stock. Turning is 90 degrees either side of center. Shear weighs 42,000 lb and operates at 30 strokes per minute. It has hinged back gage angle for cutting of plates longer than the back gage range. Other features are light-beam shearing gage, ball transfers in the table and air counterbalance on the ram. Made by **Cincinnati Shaper Co.,** Garrard & Hopple Sts., Cincinnati 25, O.

▲ For more details circle **NED-132 G3** on enclosed inquiry slip ▲

Let's Look at the Record!

One of the best ways to determine the acceptance of Zallea Stainless Steel Expansion Joints is to look at the sales record of *reorders* over the years.

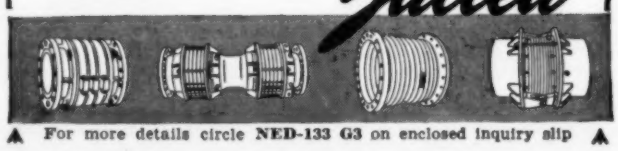
Here's a sample:

Company	No. of Orders Placed*	Since
American Viscose Corp.	79	1940
Bethlehem Steel Corp.	51	1935
Consolidated Edison Co.	115	1933
E. I. du Pont de Nemours & Co., (Inc.)	308	1934
Hercules Powder Co.	133	1937
Koppers Co., Inc.	165	1942
Nordberg Mfg. Co.	174	1942
Texas Co.	261	1938

**Including as many as 485 joints in a single order!*

We would like to add your name to our long list of satisfied customers. Write today for literature. Zallea Brothers, 818 Locust Street, Wilmington 99, Delaware.

Zallea



▲ For more details circle **NED-133 G3** on enclosed inquiry slip ▲

with Veelos on your machines
v-belt replacement takes up to 90% less time

ACTUAL in-plant records prove that Veelos v-belt can be installed *and operating* in up to 1/10th the time regularly needed to do the same job using endless v-belts.

Matched sets of Veelos are quickly made up in your own stockroom or at the machine by just coupling the correct lengths for the particular drive. Even outboard bearing drives are no problem. You *never* remove these outboard bearings, because Veelos is installed by simply coupling it around the shafts and running it onto the sheaves.

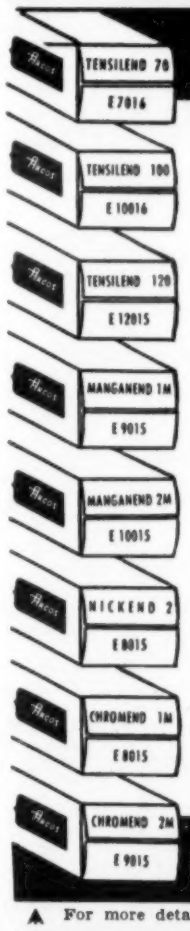
VEELOS THE LINE V-BELT

Write for a copy of the Veelos Data Book. It's fully illustrated and packed with useful engineering data. We'll be glad to send a copy to you.

MANHEIM MANUFACTURING AND BELTING CO.
650 Manbel Street, Manheim, Pa.

Adjustable to Any Length • Adaptable to Any Drive

▲ For more details circle **NED-134 G3** on enclosed inquiry slip ▲



Available For Your Use...

Practical, Fact-Filled Data Sheets give complete information on every grade of Arcos Low Hydrogen electrodes listed...*applications, weld metal analysis, mechanical properties, welding characteristics.* Write today for the Data Sheets that will guide you in the selection of the "right" electrode to produce sound high quality weld metal.

ARCOS CORPORATION
1500 South 50th St., Philadelphia 43, Pa.

▲ For more details circle **NED-135 G3** on enclosed inquiry slip ▲

THERE ARE 101 REASONS WHY...

INDUSTRY USES MORE TRANSPORTERS

than any other operator-led electric truck

ASK FOR CASE HISTORIES LIKE THESE FROM YOUR INDUSTRY

Midwestern steel plant cuts steel lath handling time 85% (despite 46% increase in volume handled) with Automatic Transporters and transtackers.

Southern Machinery Mfr., Prattville, Ala., shows total increase of 600% in tons handled per man-hour with fleet of 8 Automatic Transporters. One man, instead of 1500 lb. loads, handles 4000 lb. loads 50% faster with 50% saving in round trip time in loading and unloading push trucks.

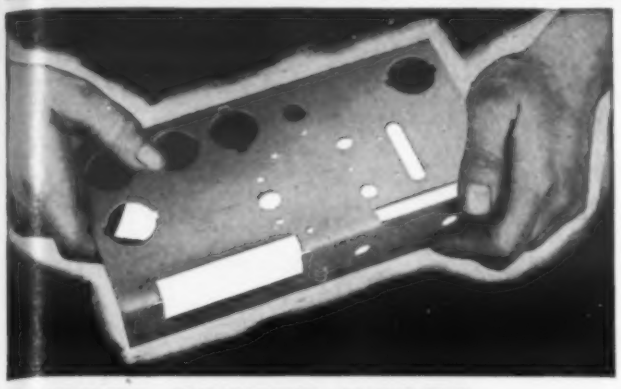
Here's the truck that does so many jobs so well all industry uses it. Yes, for 101 good reasons, but mainly because—by eliminating slow, costly hand-handling—it saves industry millions of dollars. See for yourself how the "101" Transporter raises, moves up to 6000 pounds with touch-of-finger ease...lets 1 man do work of 3...releases 2 out of 3 for more productive work. Get all the facts.

For case histories in your industry write:

Automatic
61 West 87th St., Dept. K-3, Chicago 20, Ill.

WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC DRIVEN INDUSTRIAL TRUCKS

▲ For more details circle **NED-136 G3** on enclosed inquiry slip ▲



COPPER-PLATED PARTS STAY BRIGHT AND CLEAN

when Coated with WATER DIP #33

Here's a simple, low-cost finish that keeps copper-plated surfaces bright, free from fingerprints, chemically clean. It's M & W Water Dip #33. Work goes directly from the last hot water rinse into Water Dip #33—no need for rehandling and drying!

For the complete story on Water Dip #33, write for Bulletin #117, or let our M & W technical consultant discuss your requirements privately with you.

PIONEERS IN PROTECTION

MAAS & WALDSTEIN CO. 2121 McCARTER HIGHWAY NEWARK 4, NEW JERSEY

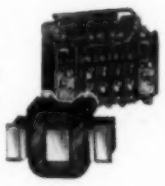
Midwest Div.: 1658 Carroll Ave., Chicago 12, Ill. • Pacific Coast Div.: Smith-Davis Co., 10751 Venice Blvd., Los Angeles 34, Cal.

MANUFACTURERS OF INDUSTRIAL FINISHES

For more details circle **NED-137 G3** on enclosed inquiry slip

THERE IS AN R-B-M CONTROL To Fit Your Needs

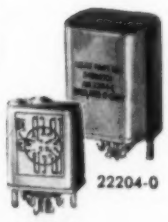
A.C. MAGNETIC STARTERS with Plasti-Clad Magnet Coil • *Write for Bulletin 605*



Full accessibility in a small package.

Contacts, coil and thermal element replacement with use of screwdriver only. Magnet coil—in molded phenolic case with riveted terminals—is completely embedded in a rock-hard resinous material, thus protecting against oil, dirt, moisture and normal mechanical damage.

HERMETICALLY SEALED RELAYS • *Write for Bulletin ASR*



50% smaller—lighter.

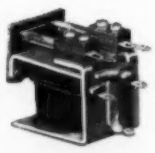
R-B-M 22204-0 meets AN 3304-1 specifications. R-B-M engineers have developed the 22300-0 currently used in government electronic, air-borne and ground equipment—as the electrical and mechanical equivalent of the AN 3304-1, yet 50% smaller in size with ½ the weight.

INDUSTRIAL CONTACTORS with Plasti-Clad Magnet Coil • *Write for Bulletin 600*

2-8 poles Non-Reversing. 2-5 poles Reversing. 25 Amp—600 AC Max.

Contacts can be replaced without removing wiring. To change coil, remove magnet frame and coil assembly only. 10 and 15 amp. poles can be changed from normally open to normally closed by using screwdriver only.

GENERAL PURPOSE RELAYS • *Write for Bulletin 570*



Low cost. Small size. Dependable performance. Available in many contact arrangements.

Whatever your needs for inexpensive, dependable relays for commercial applications—investigate R-B-M General Purpose Relays.

Other R-B-M products include; motor overload protectors, motor starting relays and low voltage DC electrical devices.

Consult R-B-M on Your Control Problems—Write Dept. K-7

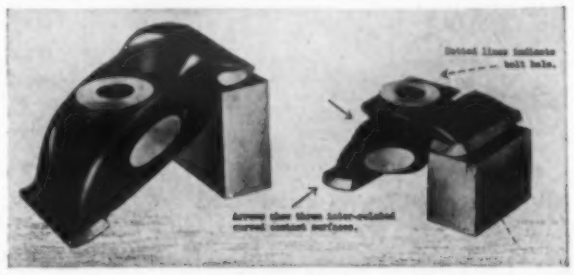
R-B-M DIVISION ESSEX WIRE CORP. *Logansport, Indiana*

MANUAL AND MAGNETIC ELECTRIC CONTROLS FOR AUTOMOTIVE, INDUSTRIAL, COMMUNICATION AND ELECTRONIC USE

For more details circle **NED-138 G3** on enclosed inquiry slip

SELF-SETTING CLAMP accommodates wide thickness range

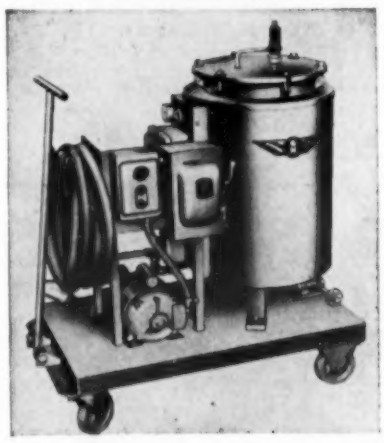
Feature of Autoset self-setting clamp is a built-in solid gripping capacity which extends over a wide range. Various bolster thicknesses can be accommo-



dated, and tools are prevented from slipping. Clamp is cast from malleable iron and has accurately machined and polished contact and working faces. Lines of force are always at right angles to the work, table and washer. Three models use two bolt sizes for additional versatility. Clamps are available in sizes from 3½ in. long with ¼ to 1⅛-in. height capacity to 8 in. long with 1⅛ to 3¾-in. height capacity. Made by **Alpha Tool & Supply Co.**, Dept. NED, Closter, N. J.

For more details circle **NED-139 G3** on enclosed inquiry slip

PORTABLE FILTER cartridge type, for oils



One man handles this portable cartridge oil filter, which hooks up to machines on a recirculation basis, fully reconditioning their oils without interrupting operations. Models are available with 30 and 60 gph pump capacities, both of which can be supplied with repackable or throw-away type cartridges and for either Fuller's earth or cellulose refills. Applications include hydraulic presses and machine tools, injection molding and die casting machines, hydraulic scrap balers and quench oil tanks. All solid particles are removed from the oils. Made by **U. S. Hoffman Machinery Corp.**, Industrial Filtration Div., 219-A Lamson St., Syracuse 6, N. Y.

For more details circle **NED-140 G3** on enclosed inquiry slip

Materials Handling Devices

Smith Devices, Inc.—Two illustrated bulletins, No. 300 and 400, provide descriptive data on heavy duty materials handling devices. Former deals with forged clamps and fittings, while latter covers cable grip equipment.

For more details circle **NED-141 G3** on enclosed inquiry slip

A—Deep crack. B—Tamping Smooth-On in. C—Crack completely sealed.

If You've Never Used SMOOTH-ON, *read this:*

Smooth-On No. 1 Iron Cement is a metallic powder which you mix with water to the consistency of putty. You tamp it, while still soft, into a crack or hole, making sure to force it against all surfaces. With Smooth-On you don't need to use heat or special gadgets. As it hardens, it expands slightly, clinging tightly in place. The repaired part is ready for use as soon as Smooth-On sets hard. Keep Smooth-On handy for both emergency and routine maintenance repairs. Buy it in 7 oz., 1 lb., 5 lb., 20 lb., or 100 lb. size. If your supply house hasn't Smooth-On No. 1, write us.

FREE 40-PAGE REPAIR HANDBOOK

Shows many industrial and home repairs made with No. 1 and other Smooth-On Cements. Leaks stopped, cracks sealed, loose parts made tight. 140 illustrations. Drop us a line for YOUR free copy.

SMOOTH-ON MFG. CO., Dept. 10
570 Communipaw Ave., Jersey City 4, N. J.

Do it with **SMOOTH-ON**

THE IRON REPAIR CEMENT OF MANY USES

For more details circle **NED-142 G3** on enclosed inquiry slip

Best handle . . . *by far!*

• Rugged • No Rattle
• Rust-proof
• Built to Military Specifications

Attention manufacturers of portable equipment, carrying cases, parts boxes, etc.! If your product requires side-carry handles, install the best—the Bendix-Friez handle. This superior handle was developed to meet strict military requirements for many specialized equipment uses. Ruggedly built of aluminum and stainless steel in a sturdy design, it knows no equal for long, faithful service. Can be riveted or welded to any kind of container . . . or depressed in the surface, if desired. Unique "snap-back" feature stops rattle from shock and vibration. Prompt attention to both large and small lot orders. Try us today.

Bendix-Friez

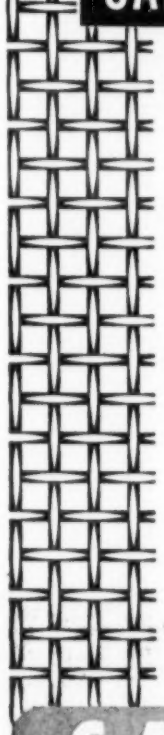
FOR FULL DETAILS, WRITE:

FRIEZ INSTRUMENT DIVISION OF Bendix
1344 Taylor Avenue, Baltimore 4, Maryland

Export Sales: Bendix International Division, 205 East 42nd Street, New York 17, N. Y.

For more details circle **NED-143 G3** on enclosed inquiry slip

CAL-WIC WIRE CLOTH



THE RIGHT WEAVE

• • • for every industrial requirement including screening, filtering, grading, cleaning and numerous other types of processing.

THE RIGHT WEIGHT

• • • precision-fabricated for long-lasting dependability and economy.

THE RIGHT METAL

• • • for highest resistance to chemical action, moisture, corrosion, abrasion and extremes of temperature.

For additional information write or phone our nearest sales office.

THE COLORADO FUEL & IRON CORPORATION – Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION – Oakland, California
WICKWIRE SPENCER STEEL DIVISION – Clinton, Massachusetts

CAL-WIC INDUSTRIAL SCREENS
THE COLORADO FUEL AND IRON CORPORATION

For more details circle **NED-144 G3** on enclosed inquiry slip

Before You Buy New or Replacement WHEELS SEE *Buffalo*

You can select from all types of wheels, in a complete range of sizes, to get the right wheel for the job. Designed and built to stand up under faster modern speeds and greater hauling distances. Before you buy any wheels, be sure to compare the selection and values offered by BUFFALO.

BUFFALO CASTER & WHEEL CORP.
1032 Broadway, Hamilton, Illinois

SEND COUPON FOR FREE CATALOG

Buffalo Caster & Wheel Corp., Dept. 11
1032 Broadway, Hamilton, Illinois
Without obligation please send me complete information about Buffalo Caster and Wheels.

NAME_____
FIRM_____
ADDRESS_____
CITY_____ STATE_____

For more details circle **NED-145 G3** on enclosed inquiry slip

A BETTER WAY TO MASS PRODUCE INTRICATE PARTS and COMPONENTS

The Microcast Process of precision investment casting offers exceptional opportunities in the mass production of parts and components. Product improvements through a wider choice of metals, substantial savings in cost, and greater freedom of part design are only a few of its advantages.

Investigate the MICROCAST Process today. Find out how it can help produce a better, more economical product for you.

microcast

MICROCAST DIVISION • Austenal Laboratories, Inc.
7001 South Chicago Avenue, Chicago 37, Illinois
224 East 39th Street, New York 16, New York

For more details circle NED-146 G3 on enclosed inquiry slip

SAVE FUEL with ASKANIA

FURNACE PRESSURE CONTROL

As little as .005" w.c. may make a big difference

Really accurate furnace pressure control can save you money. Tests have shown that a variation as little as .005" w.c. can cause fuel waste . . can cause high refractory maintenance cost.

Askania Furnace Pressure Control is the precise control for this delicate job. Askania's unique Jet Pipe principle means fast response to minute pressure changes. It saves fuel and saves brickwork by controlling infiltration to a split hair.

Calibrated Control—Adjusting handwheel is laboratory-calibrated in actual pressure units . . not just an arbitrary scale. An accurate check on your draft gauge.

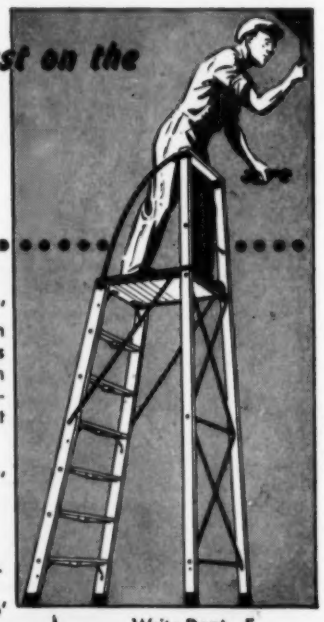
For details about Askania high-performance automatic control, write for Bulletin 139.

ASKANIA REGULATOR COMPANY
258 E. Ontario Street Chicago 10, Illinois
Subsidiary of General Precision Equipment Corp.

For more details circle NED-147 G3 on enclosed inquiry slip

high jobs go fast on the

safety level.....



Dayton's special "Safety Level" working platform gives workman complete confidence. He works faster, more efficiently, uses both hands. Check the "big 6" features that make Dayton your best buy.

1. Rail-guarded "Safety Level" platform.
2. Locks in place automatically.
3. Rubber safety shoes.
4. Light weight—great strength.
5. Economically priced.
6. Complete size range 3' to 16' in height.

Write Dept. E for Bulletin

Dayton safety ladders

Dayton safety ladder co.
2339 GILBERT AVENUE
CINCINNATI, OHIO
In Canada:
Safety Supply Co., Toronto

For more details circle NED-148 G3 on enclosed inquiry slip

TRAILER TYPE SWEEPERS
self-powered and tractor-driven models sweep trash as well as snow

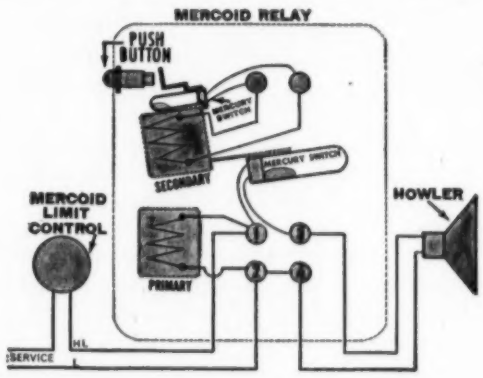
Dirt, trash, brickbats and snow can be swept at any angle up to 30 degrees to left or right of center by either of these two trailer-type sweepers. Hy-Port model, bottom, is self-powered by 15-hp air-cooled engine, is lightweight and features three-wheel design and short wheel base for handling ease. Brooms for sweeping 6 or 8-ft swaths are available.

The P.T.O. model, shown at top receives its power from power take-off of pulling tractor or jeep. It is equipped with broom for cleaning 6-ft swath and will cover 25,000 sq yd an hour at speed of 8 mph. Both sweepers feature hydraulic and manual controls at operator's platform which control up and down movement of broom and sweeping angle, respectively. Sprinkler attachment for dust control is available for both models. Made by **Little Giant Products, Inc.**, Dept. NE, 1530 N. Adams St., Peoria 3, Ill.

For more details circle NED-149 G3 on enclosed inquiry slip

PUSHBUTTON RELAY
manually interrupts audible alarm

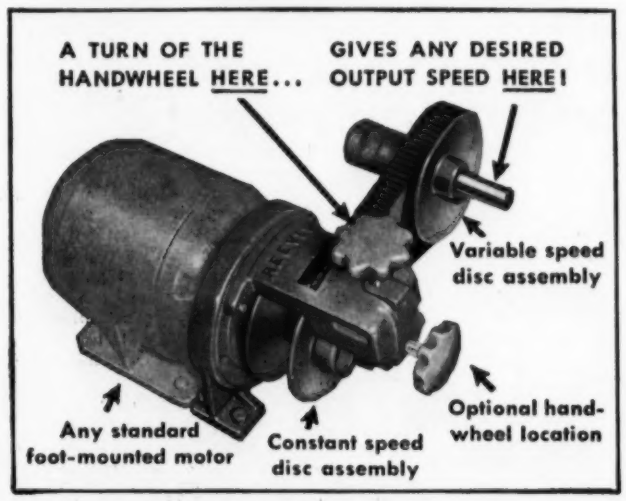
Installation of a type V2X108 pushbutton relay permits the operator to manually interrupt an audible alarm and also provides for the alarm circuit to be



automatically re-established as soon as the condition requiring the alarm has been corrected. Primary coil of the relay is available for 115, 230 or 440-v ac or dc, while the alarm circuit uses a 9-51 mercury switch rated 10 amp at 115 v, 5 amp at 230 v or 3 amp at 440 v. Size is 2¾ x 4 15/16 x 6¾ in. Standard enclosure meets NEMA 1 requirements. Weatherproof enclosure is also available. Made by **Mercoid Corp.**, 4223 Belmont Ave., Chicago 41, Ill.

For more details circle NED-150 G3 on enclosed inquiry slip

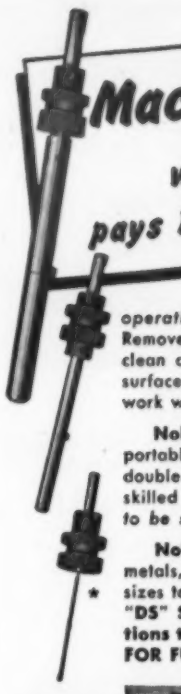
NEW! REEVES Flexi-Speed Drive



Mounts in any position . . . drives in any direction . . . gives any speed within 8:1 range . . . available in ½, ¾ and 1 hp. *Low Price!* Write today for details to Dept. NED91b-V532.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

For more details circle NED-151 G3 on enclosed inquiry slip



Machine de-burring with NOBUR pays BIG production dividends!

NOBUR Tools *turn a slow bench operation into fast and efficient machine work!* Remove burrs on multi-walled parts with a smooth, clean cutting action that won't mar highly finished surfaces. Eliminate rejects from slow, costly hand work with files, scrapers and abrasives.

Nobur Tools are used on any lathe, drill press, portable drill or flexible shaft. Operation of the double-edge cutting blade is easy and safe . . . no skilled help is required, and the spindle *never needs to be stopped* for either de-burring or chamfering.

Nobur Tools cut freely on either hard or soft metals, are simple in construction and are made in sizes to cover a full range of hole diameters. ***NEW "DS" SERIES extends range of NOBUR applications to holes as small as ⅛" diameter. WRITE FOR FULL DETAILS TODAY!**

Parts like these quickly de-burred with

NO BUR TOOLS
NOBUR MANUFACTURING COMPANY
719B N. VICTORY BLVD., BURBANK, CALIF.

For more details circle NED-152 G3 on enclosed inquiry slip

ECONOMICAL SHEET HANDLING

LOUDEN OVERHEAD HANDLING OF SHEET STEEL PAYS FOR ITSELF QUICKLY, AND YIELDS TREMENDOUS SAVINGS IN MAN-HOURS . . .

To meet the mill practice of shipping sheet steel in five-ton bundles, it is almost mandatory that fabricators likewise use overhead handling equipment. Otherwise expensive man-handling and inefficient transportation inside the plant are inescapable. Further, steel prices are higher when sheets are shipped in less than five-ton bundles.

Louden Monorail equipment permits bundles to be hoisted intact from railroad cars and moved to storage or the start of a fabricating process anywhere inside the plant. Then, the same equipment may be used for intermediate handling steps in the fabricating process.

WRITE FOR THIS FREE BOOK
Case histories telling how Louden Monorail Systems have saved time and money for widely different kinds of industries are described and pictured in a new, illustrated, 36-page book called, "Economical Material Handling".

THE LOUDEN MACHINERY COMPANY
7621 S. Superior Ave., Fairfield, Iowa

Louden

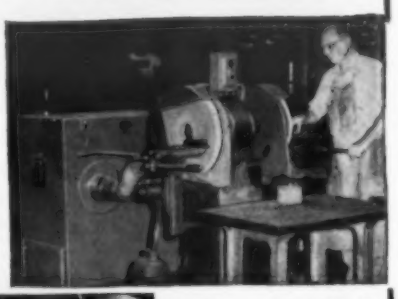
OVERHEAD MATERIAL HANDLING

For more details circle NED-153 G3 on enclosed inquiry slip

STOP DUST INSTANTLY WITH DUSTKOP

300 cfm to 10,000 cfm standard pre-tested units available in stock

- LOW COST
- IMMEDIATE INSTALLATION
- SAVES HEAT
- PORTABLE



2405 ◀ cfm 1400▲ cfm

DUSTKOP

WRITE FOR

- RECOMMENDATION about your dust problem. No obligation
- CATALOG 605-2

AGET-DETROIT CO.

202 S. Main St. Ann Arbor, Mich.

▲ For more details circle NED-154 G3 on enclosed inquiry slip ▲

STOP COSTLY HAND LOADING

RITE-HITE Adjustable Loading Docks speed up the flow of material in and out of your plant. Fork or lift trucks move directly from the plant into the carrier, handle material only ONCE. You get increased dock capacity, safety, and efficiency, when you specify RITE-HITE.

RITE-HITE requires

√ *No costly machinery* √ *No lubrication*

√ *No fluid or electrical controls*

• *Write for literature*

LOOMIS MACHINE CO. RITE-HITE DIVISION

Dept. 14 CLARE, MICHIGAN

▲ For more details circle NED-155 G3 on enclosed inquiry slip ▲

ANYBODY can do

PRECISION TAPPING NOW WITH "Auto-tap"

You may not bring in your baby to run this tapping attachment, but any one with little or no skill can tap accurate threads consistently.

No matter who operates the "Auto-tap", you get only perfect tapping.

Excellent for production tapping. Write for illustrated literature and price lists.

Automatic Methods INC.

"PRECISION PARTS FOR THE AIRCRAFT INDUSTRY"

953 W. Grand St., Elizabeth 2, N. J.

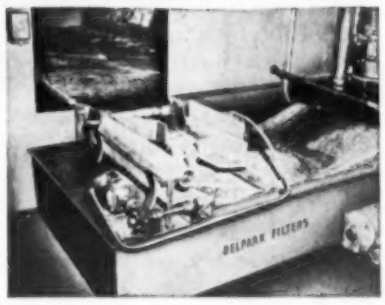
▲ For more details circle NED-156 G3 on enclosed inquiry slip ▲

PORTABLE LIQUID PUMP stops when supply runs dry

Vacuum switch on this Hypro portable pump automatically stops motor when liquid supply runs dry to guard against burn-out. Unit weighs 27 lb, has hinged carrying handle and will lift water up to 10 ft unprimed, 22 ft primed, and has outside threaded ports for female hose couplings. Capacity is up to 5 gpm at 30 psi. Liquids ranging in viscosity from alcohol to syrups can be handled. Pump motor is ¼-hp, 110-v, heavy duty capacitor type with manual reset overload protector and 5 ft cord. Made by **Hypro Engineering, Inc.,** Dept. NED, 404 N. Washington Ave., Minneapolis 1, Minn.

▲ For more details circle NED-157 G3 on enclosed inquiry slip ▲

SPRAY BOOTH FILTER removes paint sludge and particles from water in automatic cycle



Overspray from painting operations in the form of sludge and particles can be removed from paint spray booth water by the Delpark filtration system. An automatic skimming system moves flocculated paint to a weir over which the paint matte is delivered to the filter, a continuous self-cleaning gravity unit which removes paint from water by gravity and discharges it into an outside container in a relatively dry state.

Filter material rests on, and conforms to, a flat endless conveyor of open construction. When flow through the material is reduced by the paint held upon it, the water level rises, causing a float switch to actuate the conveyor to carry the filter material forward and bring clean material under the incoming dirty water. Float then drops as the water level is lowered. Made by **Industrial Filtration Co.,** Dept. 513, Lebanon, Ind.

▲ For more details circle NED-158 G3 on enclosed inquiry slip ▲

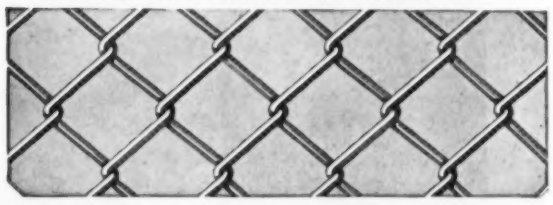
Materials Handling Equipment

Fab-Weld Corp.—Among the materials handling items illustrated in 31-page catalog are skids, pallets, stackable pallets, skid boxes, Return-O-Tainers, racks, trucks, trailers, dump hoppers, car plates, truck plates and special equipment.

▲ For more details circle NED-159 G3 on enclosed inquiry slip ▲

PAGE FENCE - Since 1883

• AMERICA'S FIRST WIRE FENCE •



EVERY STEP IS QUALITY CONTROLLED— FROM RAW METAL TO THE ERECTED FENCE

• Page *Chain Link* Fence, pioneered by PAGE and produced only by PAGE, offers reliable protection against hazards which threaten both property and persons.

YOUR CHOICE OF THREE SUPERIOR METALS is assurance that your fence will best meet your needs. Choose heavily-galvanized Copper Bearing Steel, or long-lasting Stainless Steel, or corrosion-resisting Aluminum. Interlocking wires are woven to form a strong, uniformly square mesh.

EIGHT BASIC STYLES, varied by choice of metals, wire gauges, heights, types of gates, posts and post tops, and top rails. Tension and fabric bands not removable from outside. Gate frames welded at joints.

IT'S TIME TO THINK, AND ACT. Page Fence is expertly erected by technically trained firms conveniently located throughout the country. For illustrated PAGE data and name of nearest firm . . .

Write to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, New York or San Francisco.

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

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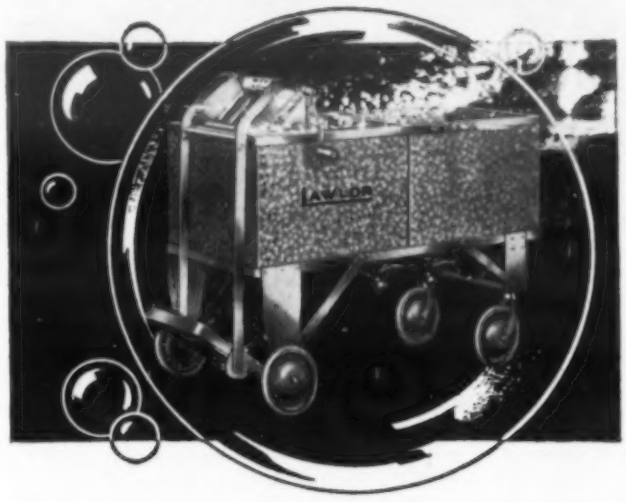
LAWLOR MOPPING TANKS

Lead the Field in Ruggedness and Service



8 styles and sizes of all steel, acetylene welded tanks • 2 or 3 compartments • 30, 60 or 65 gallon capacities • hand or foot pressure wringers • perforated roll wringers • special drain shut-offs • hot dipped, galvanized chassis and frames • rubber tired, cadmium plated steel wheels.

Write for Catalog of Mopping Tanks, Wringers, Floor Scrub Wax-Polishing Machines for every kind and size floor.

S. C. LAWLOR CO.

Quality Floor Equipment for 50 Years

131 N. Aberdeen St., Chicago 7, Ill.

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Want Your PLYWOOD "MEDIUM RARE"?

AETNAPLY PLUS VALUES

Over 50 species of Plywoods and Veneers Foreign and Domestic.

◆

Free Engineering Service to help you use plywood to your best advantage.

◆

24-hour Shipping Service.

◆

Direct mill shipments to your exact specifications.

◆

Other woodworking products: Glues, Sealers, etc.

We know it looks silly to compare a piece of plywood with a juicy steak, but we did it just to illustrate another AETNAPLY service.

You can order your plywood "Just the way you want it" when you order from AETNA. As a steak is ordered to suit your *taste*— Plywood is ordered to suit your *job*.

No matter what your production requirements are, check with AETNA. Do you want it cut-to-size; machined; dip-treated; sprayed? We'll furnish it that way. Do you require odd-shaped or odd-size stock? We'll furnish it as you want it when you want it.

Send your blueprints, specification sheets, or just the general idea. We'll work it out for you and send you a quote or the order—just the way you want it.

WRITE AETNA for the RIGHT PLYWOOD

AETNA PLYWOOD & VENEER CO.

1718 N. Elston Avenue, Chicago 22, Illinois

ARmitage 6-7100

BRANCH WAREHOUSES: Grand Rapids 7, Mich.; Indianapolis 2, Ind.; Rockford, Ill.

PLYWOOD for every purpose — every industry

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HERE'S THE TEAMMATE

Get fast, convenient grinding of lathe centers, cutters, reamers, rolls and dies. You can do it with THE CINCINNATI Ball Bearing Tool Post Grinder!

THE CINCINNATI mounts on the compound rest of any lathe with a 9" swing, or larger. It grinds within 2½" of the maximum swing . . . can be swivelled around the clamping bolt . . . spindle height is readily changed. Motor mount is adjustable for easy maintenance of belt tension. Write today! Ask for name of your distributor or Bulletin 53-JD.

THE BEST IN DRILLS, GRINDERS, BUFFERS, PORTABLE TOOLS

TRADE The Cincinnati MARK

50th Anniversary

THE CINCINNATI ELECTRICAL TOOL CO.
Division of THE R. K. LeBLOND MACHINE TOOL CO.
CINCINNATI 8, OHIO

For more details circle NED-163 G3 on enclosed inquiry slip

NEW! SCREW-IN TANK FLOAT SWITCH

Class 9037 Type HG

for CONDENSATE PUMP CONTROL

• Easily adjusted • Float indicator • Dial indicates water level change • 2½" fitting with tangent "hex" for easy installation • Switch action reversible in the field • Electrical ratings 110/220/440/550, 1 HP single or polyphase 115/230 Volts, D. C.; ¼ HP, 2 Pole.

Write for latest Pump Control Catalog. Address Square D Company, 4041 N. Richards St., Milwaukee 12, Wis.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

For more details circle NED-164 G3 on enclosed inquiry slip

THE PROBLEM

For their rocket engine research and production, Bell Aircraft Corporation was designing a new instrumentation system. Their problem was finding a way to meter the propellant consumption remotely.

THE BALDWIN SOLUTION

The fuel feed tank is suspended from a cable attached to a Baldwin SR-4, 160 lb. load cell which supports the weight of the tank and fuel.

This system benefits Bell in these three ways:

1. The fuel consumption can be indicated and controlled remotely because the only connection from the SR-4 cell to the instrument is through electric cable.

2. Because of special aluminum construction this cell resists corrosion by common propellants such as hydrogen peroxide and nitric acid provided that cell is washed off after any accidental contact with them.

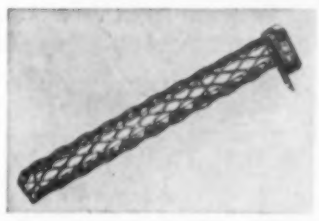
3. The need for maintenance is virtually eliminated by the rugged construction and by the absence of moving parts.

The uses of SR-4 devices throughout industry are unlimited. For further information about how they might cut your costs and time for measuring loads, pressure or torque, please write Dept. 3129, Baldwin-Lima-Hamilton Corporation, Philadelphia 42, Pennsylvania.

TESTING HEADQUARTERS
BALDWIN-LIMA-HAMILTON
General Offices: Philadelphia 42, Pa. • Offices in Principal Cities

For more details circle NED-165 G3 on enclosed inquiry slip

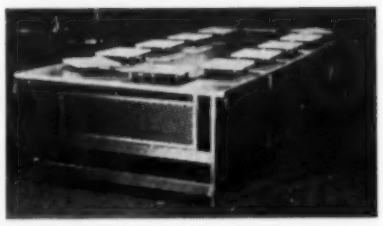
IMMERSION HEATER
quartz sheath resists acids



The fused quartz sheath of the Glo-Quartz immersion heater is resistant to all acids, excepting hydrofluoric, at all concentrations and temperatures, and makes possible the efficient heating of acid electroplating, polishing, pickling and phosphatizing solutions. Since no deposits form on the surface of the heating element, the unit is well suited to heating phosphatizing solutions. It is available in a wide range of standard sizes in various voltages, and is equipped with UL approved junction boxes and Plastisol covering. Made by **Glo-Quartz Electric Heater Co.**, Dept. ME, 37934 Elm St., Willoughby, O.

For more details circle NED-166 G3 on enclosed inquiry slip

MAGNETIC PARTS CONVEYOR
clean and flexible in any layout

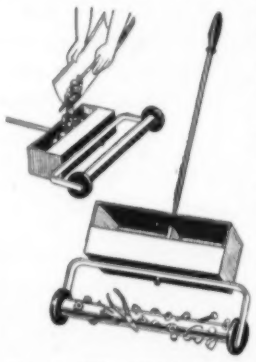


This magnetic conveyor provides a remotely located prime mover which carries parts from station to station by a magnetic lock over an unbroken stainless steel work surface. Practically any pattern of curves can be traversed, and almost any parts or load can be easily attached and detached from the line. Location of the line can be at any elevation from the floor. The unit has been designed for such applications as parts assembly, sorting, warehousing and packing. **George Koch Sons, Inc.**, 2113 W. Pennsylvania St., Evansville 4, Ind.

For more details circle NED-167 G3 on enclosed inquiry slip

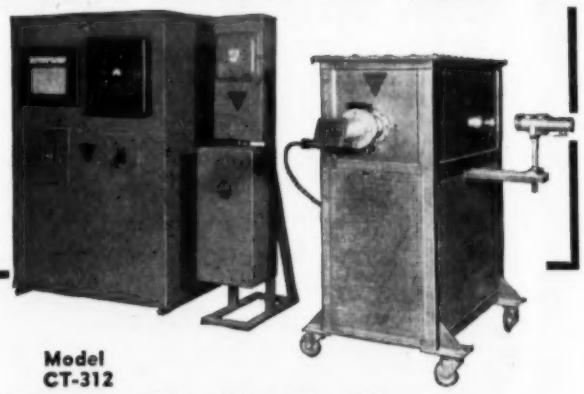
MAGNETIC SWEEPER
standard widths 22 in. to 6 ft

The full 8-in. circumference of the magnetic bar of the Series 60 rotating sweeper loads with iron to a thickness of 1½ in. Unloading is done by stripping the Neoprene cover from the rotary bar, and pouring the accumulation of iron into a collection box attached to the sweeper frame. The sweeper is offered in standard widths from 22 in. to 6 ft. Clearances larger than the standard 1½-in. are also available. Sweeper is pushed or pulled manually with the 56-in. handle or can readily be towed behind a vehicle. Made by **Multifinish Manufacturing Co.**, Dept. 457, 2114 Monroe Ave., Detroit 7, Mich.



For more details circle NED-168 G3 on enclosed inquiry slip

Precision Control At 5000° F.



Model CT-312

PERECO

Carbon-Resistor Type TUBE FURNACE

Developed to meet the demands of both industry and military. Suited for investigations in the ultra-high (3500°—5000° F.) temperature ranges in the field of either metallurgy or ceramics. Wide range of "turn-down" insures very accurate results. May also be duplicated repeatedly. Capable of holding to plus or minus 20° F. at 5000° F. Choice of extremely rapid or any slower cycle heat-up; close control of both temperature and power input; full-range, FAIL-SAFE, safety devices; and easy, low-cost element replacement.

Standard or Special Furnaces or Kilns from 450° F. to 5000° F.

Write for Bulletin

PERENY EQUIPMENT CO.
Dept. G, 893 Chambers Rd., Columbus 12, Ohio

PERENY EQUIPMENT COLUMBUS OHIO

For more details circle NED-169 G3 on enclosed inquiry slip

LOAD AND UNLOAD TRUCKS Faster with ALVEY GRAVITY TYPE TELESCOPIC BOOM

The gravity telescopic is an extendable boom which is equipped with roller conveyor. It is made to slope out from the building dock into the truck for loading, and also to slope into the building for unloading.

Booms are designed in various widths and lengths to suit the needs of the job. They are comparatively light in weight so they can be easily withdrawn or stowed away by hand.

Usually gravity telescopic booms are installed in pairs, one for incoming and one for outgoing traffic. Ask for more data.

ALVEY CONVEYOR MFG. CO.
9259 Olive Street Road • St. Louis 24, Missouri

ALVEY

BRANCH OFFICES IN PRINCIPAL CITIES

For more details circle NED-170 G3 on enclosed inquiry slip

SOLID . . . as a rod
FLEXIBLE . . . as a wire rope

TRU-LAY Push-Pulls snake around obstructions. Provide positive remote action for operating clutches, gates, slides, etc. Operate while flexing. Weatherproof, dustproof types. Capacities up to 1000 pounds input.

Write our Detroit office today for DH-287

TRU-LAY PUSH-PULL CONTROLS

ACCO

AUTOMOTIVE AND AIRCRAFT DIVISION
AMERICAN CHAIN & CABLE
601 Stephenson Bldg., Detroit 2
2475 Porter St., Los Angeles 21 • Bridgeport, Conn.

For more details circle NED-171 G3 on enclosed inquiry slip

Close Tolerances...

. . . that's another advantage of Hackney Deep Drawn Shapes and Shells when used as component parts of the equipment you manufacture.

The Hackney shape shown above, for example, permitted more exact product specification when it replaced a steel casting. Reduced weight, elimination of porosity problems, and lower unit costs were additional benefits.

Hackney parts are designed to your specifications —are produced with our 50 years of experience. Write for details.

PRESSED STEEL TANK COMPANY
Manufacturer of Hackney Products

1450 S. 66th St., Milwaukee 14
1324 Vanderbilt Concourse Bldg., New York 17
255 Hanna Bldg., Cleveland 15
936 W. Peachtree St., N.W., Room 136, Atlanta 3
208 S. LaSalle St., Room 779, Chicago 4
578 Roosevelt Bldg., Los Angeles 17
18 W. 43rd St., Room 30, Kansas City 11, Mo.

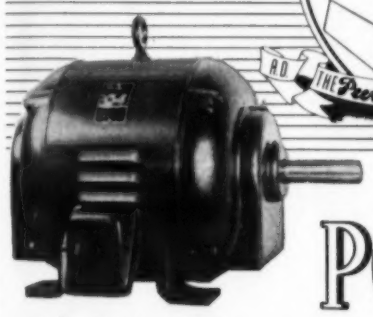
CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

For more details circle NED-172 G3 on enclosed inquiry slip

Peerless

KNOWLEDGE SKILL

PREMIUM-BUILT ELECTRIC MOTORS



THE Peerless ELECTRIC COMPANY 1893

The POWER

that builds reputations

Quality equipment producers protect themselves and you with Peerless premium-built electric motors.

Peerless Motors are expertly designed for these jobs . . . built by men skilled in their work . . . men who know the value of efficient, friendly service. The Peerless name . . . a name that for 60 years has stood as a symbol of quality and performance.

THE PEERLESS ELECTRIC COMPANY

MOTORS
FANS
BLOWERS

Peerless Electric

1415 W. MARKET ST.
WARREN, OHIO

For more details circle NED-173 G3 on enclosed inquiry slip

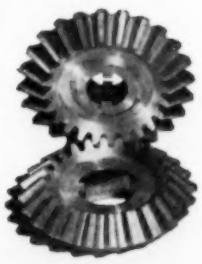
D.O.James

Established 1888

GEARS For INDUSTRY

SINCE 1888 . . . We have been making many types and sizes of gears for industry. Vast plant facilities of the most modern gear cutting equipment assure capable handling of your *production* or *special* gear requirements.

HELICAL and BEVEL GEARS—From 1" to 60" in diameter and from 24 DP to 1½ DP.
SPUR GEARS—Size range from ¾" to 150" in diameter. 32 DP to ¾ DP.
HERRINGBONE GEARS—Made from 1" to 60" in diameter and from 10 DP to 1½ DP.
SPIRAL BEVEL GEARS—Made from 1" to 30" in diam. and 24 DP to 1½ DP.
WORM GEARS — Made from 1" to 100" in diam. and from 24 DP to 1 DP.



YOUR GEAR INQUIRIES WILL RECEIVE IMMEDIATE ATTENTION

D.O.JAMES GEAR MANUFACTURING COMPANY
1140 W. MONROE ST. • CHICAGO 7, ILL.

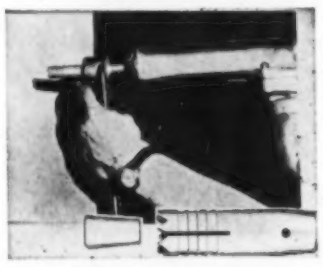
For more details circle NED-174 G3 on enclosed inquiry slip

ROLLER SKID
supports 3200 times own weight

Utilizing the self-laying track principle, Multiton roller skid has hardened rollers separated by anti-friction ball bearings to support the load. The fact that the load is spread over a large floor area permits the unit to support up to 3200 times its own weight. Skid finds application in moving heavy machinery and parts, and has a hardened cast alloy-steel frame. Distributed by **Stokvis Edera & Co.**, Dept. NE, 95 Madison Ave., New York 16, N. Y.

For more details circle NED-175 G3 on enclosed inquiry slip

MASONRY ANCHOR PLUG
is self-drilling expansion type



Shell and anchor plug make up the construction of the Bulldog self-drilling expansion anchor for concrete and masonry construction work. After the shell has been used as a drill to bore its own hole it is withdrawn and the anchor plug placed in position. When the unit is again driven home, the shell expands over the plug to provide high anchoring strength. Four types are available to meet most needs, either for hand or power hammer installation. Nonfusable metal construction offers protection against anchor failure due to fire. Made by **J. D. Polis Mfg. Co.**, 2908 W. 26th St., Chicago 23, Ill.

For more details circle NED-176 G3 on enclosed inquiry slip

EXHAUST VENTILATORS
suitable for corrosive conditions

Fabricated throughout from Agilide unplasticized polyvinyl chloride, these exhaust ventilators offer high structural strength and chemical resistance to most corrosive industrial vapors, including nitrous gases. Four capacities are available between 250 and 1670 cfm. Units are furnished with motors and can easily be incorporated into existing or new exhaust systems. Agilide is not subject to aging or stress corrosion. Made by **American Agile Corp.**, Dept. E, P. O. Box 168, Bedford, O.

For more details circle NED-177 G3 on enclosed inquiry slip

New Low Prices
ON AIRCO WELDING WIRE

for the Aircomatic® and other inert-gas-shielded arc welding processes

Consumable, spooled wire — stainless, copper-base alloy and aluminum — now at new low prices. The following sizes are immediately available:

Airco ALUMINUM	3/64", 1/16", 3/32", 1/8" dia.
Airco STAINLESS	.035", .045", 1/16", 3/32" dia.
Airco COPPER-BASE ALLOYS	.035", .045", 1/16", 3/32" dia.

For complete price list and table of all Airco wires, including chemical analyses, gauges, lengths and stock numbers, call your nearest Airco office, or write Dept. 17 NED Air Reduction Sales Company, 60 East 42nd Street, New York 17.

Specify Airco wire for —
- Controlled, uniform chemical analysis
- Highest possible standards of surface finish, cleanliness and straightness
- Careful spooling that assures smooth, uninterrupted wire feed.

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Represented Internationally by Airco Co. International
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AT THE FRONTIERS OF PROGRESS YOU'LL FIND . . . AN AIR REDUCTION PRODUCT

For more details circle NED-178 G3 on enclosed inquiry slip

a new miniature indicator!

- removable units—interior illumination
- easy to read—5 inch scale, no parallax
- easy correlation of related functions
- easy zero check from the front

HAYS Miniscale Gages

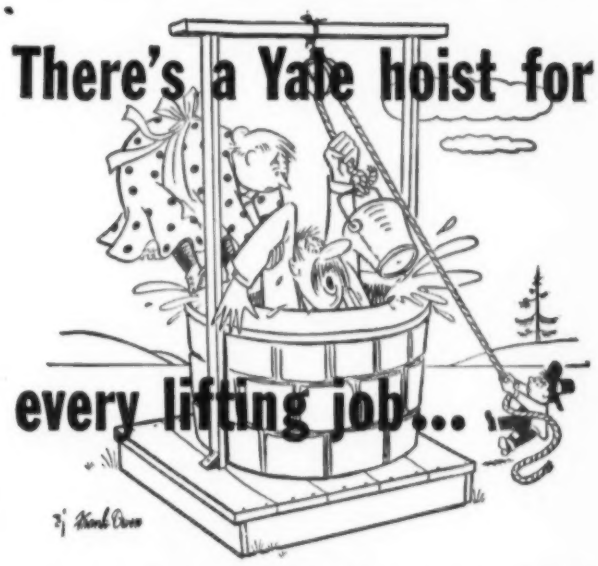
This miniature instrument is especially suited for remote indication of such variables as pressure, draft, flow or level.

The scale is only 5 inches long—easy to read—internally illuminated. Choice of pneumatic or electric transmission. Also available is the Hays direct reading miniscale gage for indicating *pressures* of fluids (steam, water, gas, oil, etc.) directly. Gages are arranged for flush or semi-flush mounting. Either a yoke mounting, for as many as 12 units, or a keyhole clamp mounting for individual units can be provided. *Write today for Bulletin 52-1075-223.*

THE hays CORPORATION
MICHIGAN CITY, 15, INDIANA

For more details circle NED-179 G3 on enclosed inquiry slip

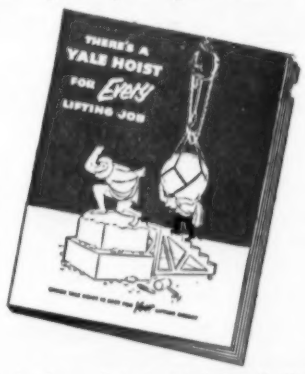
There's a Yale hoist for every lifting job...



Whether your company's lifting requirements call for one, readily portable hand hoist to be used occasionally...or a plant-wide system of trolley-mounted electric hoists, you can best meet your needs with YALE. Because YALE makes the most complete line ...ranging from giant hoists that will lift 40 tons to an all-aluminum hoist weighing a scant 36 lbs. and which delivers an almost unbelievable 95% mechanical efficiency.

Get the whole story...get your FREE copy of the NEW YALE HOIST BOOK by completing the coupon and mailing today.

You need this Free Book if:
- You specify or buy hoists
- You use hoists in any phase of your company's operation
- You aren't satisfied with your present hoisting equipment



Yale Hoists are sold exclusively through industrial distributors

YALE*

MATERIALS HANDLING EQUIPMENT
*Registered in U. S. Patent Office

MAIL THIS COUPON TODAY

The YALE & TOWNE Manufacturing Co., Dept. 377
Roosevelt Blvd. and Haldeman Ave., Phila. 15, Pa.
Please send me my FREE copy of the *Yale Hoist Users and Buyers Guide.*

Company_____
Name_____ Title_____
Street_____ City_____ State_____

In Canada write: The Yale & Towne Mfg. Co., St. Catharines, Ontario, Canada

GAS, ELECTRIC, DIESEL LIFT TRUCKS • WORKSAVERS
HAND TRUCKS • HAND AND ELECTRIC HOISTS • PUL-LIFTS

For more details circle NED-180 G3 on enclosed inquiry slip

Sprocket Savings!

Get this NEW SPROCKET CATALOG SUPPLEMENT SC-2

Complete buying information on Standard Sprockets and on new line of SHOLD-A-GRIP Interchangeable Tapered Bushings and Sprockets . . . also Chain, and new Chain Breaking Tool.

ASK YOUR BOSTON gear DISTRIBUTOR for the new Sprocket Catalog, or write Boston Gear Works, 69 Hayward St., Quincy 71, Mass.

▲ For more details circle NED-181 G3 on enclosed inquiry slip ▲

Originally designed to eliminate COMPRESSED AIR LEAKS

GRINNELL-SAUNDERS DIAPHRAGM VALVE

The operating principle of the Grinnell-Saunders Diaphragm Valve is simple. A rubber diaphragm, seating on metal, makes possible an absolute seal. At the same time, because working parts are wholly isolated, no packing glands are necessary, and stem leaks are impossible.

Successful on compressed air lines, it was only a matter of time before Grinnell-Saunders Diaphragm Valves were in demand for other type installations . . . handling materials as diversified as corrosive fluids, gases, beverages, foods, suspended solids . . . in lines where corrosion, abrasion, contamination, clogging, leakage and maintenance are costly factors.

Grinnell-Saunders Diaphragm Valves can be had with body, lining and diaphragm materials to meet different service conditions. Write for the Grinnell-Saunders Diaphragm Valve Catalog.

Quick Operating Valve

GRINNELL
WHENEVER PIPING IS INVOLVED
GRINNELL COMPANY, INC.
Executive Offices: Providence, Rhode Island
Sales Offices and Warehouses in Principal Cities

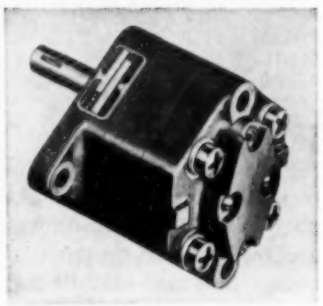
▲ For more details circle NED-182 G3 on enclosed inquiry slip ▲

ROD CUTTER
cuts 1/8 to 3/4-in. mild steel

A 48-in. geared lever moves the shearing blade of the model 400 rod cutter against a fixed die, giving the unit a cutting capacity in mild steel rod from 1/8 to 3/4-in. It can be mounted on a bench or carried to the job, since total weight is only 42-lb. Both shearing blade and die are quickly replaceable. Illustration shows on-the-job cutting of steel reinforcing rods. Made by **Whitney Metal Tool Co.**, 400 Forbes St., Rockford, Ill.

▲ For more details circle NED-183 G3 on enclosed inquiry slip ▲

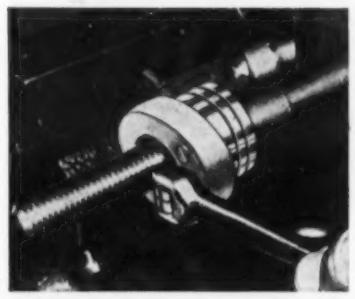
HYDRAULIC GEAR PUMP
2.9 gpm at 1800 rpm and 1000 psi



Added to line of hydraulic pumps is this HB series gear type unit in three sizes with capacities ranging from 1.8 to 2.9 gpm at 1800 rpm and 1000 psi. An internal relief valve is optional and is adjustable for pressure between 500 and 1200 psi. Type HBP model is designed for face or wet sump mounting, and type HBS is sealed unit recommended for direct, gear or belt drives. Either pipe tap or manifold porting is available. Applications include industrial trucks and power steering systems, tractor loaders, machine tools and construction machinery. Made by **Webster Electric Co.**, 1900 Clark St., Racine, Wis.

▲ For more details circle NED-184 G3 on enclosed inquiry slip ▲

RATCHET WRENCH
socket fits over any length stud



Besides being able to ratchet in an arc as small as 7 degrees, the Life Saver socket wrench will drop down over any length stud or rod to ratchet the fitting. Equipped for square drive handle, the head will take a regular torque handle. Four snap-in socket sets are offered with a total range of hex nut sizes from 0.375 to 2.125 in. Made by **Tubing Appliance Co.**, 10323 Anza Ave., Los Angeles 45, Calif.

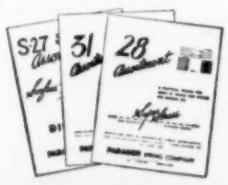
▲ For more details circle NED-185 G3 on enclosed inquiry slip ▲

QUALITY CONSCIOUS SPRING BUYERS CHOOSE

PARAGON SPRINGS

Springs from Paragon are good springs . . . because of our complete control during manufacture. Our customers know that even commercial springs are better from Paragon . . . at no extra cost. Whatever your requirements . . . Precision or Commercial . . . your orders and inquiries receive expert individual attention.

SEND SPECS FOR QUOTATION



Write for STOCK SPRING DATA SHEETS giving complete specs, loading and design information.

PARAGON SPRING COMPANY
4619 W. Fulton St. • Chicago 44, Ill.

▲ For more details circle NED-186 G3 on enclosed inquiry slip ▲

If you have a labeling problem ordinary labels can't solve...use AVERY Kum-Kleen self-adhesive LABELS

...the tough ones are our specialty

...where other types of labels are found "wanting"...or when you need to substitute an attractive pressure-sensitive label for a costly nameplate... Avery Kum-Kleen labels are the *best* solution to your problem!

...and so are the other kind..

...where you want *faster* labeling... improved appearance...labels that won't pop, curl or peel...or those the housewife can remove without soaking or scraping...there's no substitute for an Avery Kum-Kleen label!

faster • easier • more economical

Patented Avery dispensers...manual or electric... feed die-cut *pressure-sensitive* labels off roller tape ready to be LAID ON any clean, smooth surface. No moistening...no sticky fingers.
Where can YOU use these labels in YOUR business? Write today for free samples, case histories and prices.

AVERY ADHESIVE LABEL CORP., DIV. 102
117 Liberty Street, New York 6 • 608 South Dearborn Street, Chicago 5
1616 So. California Ave., Monrovia, Cal. • Offices in Other Principal Cities
Originators of Pressure-Sensitive Labels

▲ For more details circle NED-187 G3 on enclosed inquiry slip ▲

SPEED LOAD HANDLING for Truck, Shop or Machine

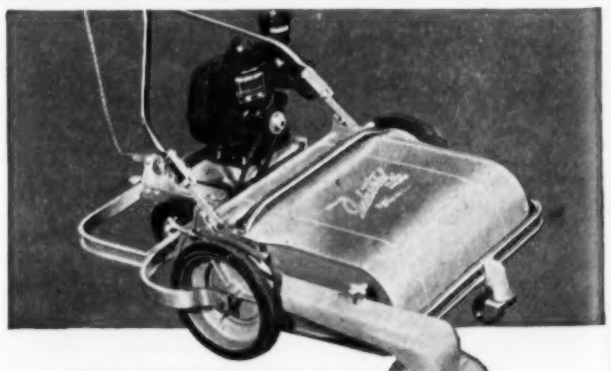
UNIT *utility* HOIST

Hydraulically operated Unit Utility Hoists can speed and ease handling of 1000 to 2000 lb. loads around your trucks, shop or machines, and the hoist itself can be switched from the truck, floor or machine mount in seconds. Three lifting points and boom extension give a wide working range. Hoist swings 360° on truck and locks securely in traveling position. Many uses in every plant.

Write today for latest information

UNIT MFG CO. 1223 Harmon Place Minneapolis 3, Minnesota

▲ For more details circle NED-188 G3 on enclosed inquiry slip ▲



$325.00 F.O.B. Springfield, Ohio

Buys a POWER Floor Sweeper

Now the benefits of Parker *power* sweeping can be yours at the lowest price in the floor sweeping industry. Famous Parker "tough use" construction. Sweeps all kinds of floors . . . easily emptied . . . easily maneuvered in small spaces . . . pays for itself in a remarkably short time. Get our latest complete-line bulletin . . . get a Parker floor sweeper and prove its great man-saving, cost-saving operation on your own floors. Write PARKER SWEEPER CO. 67 BECHTLE AVE., SPRINGFIELD, OHIO.

PARKER FLOOR SWEEPERS
Manual and Motorized Models

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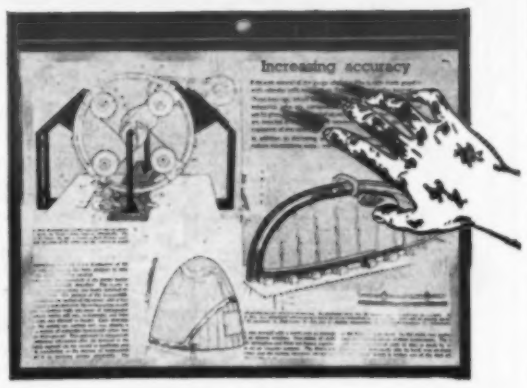
Don't take Chances..



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KLEER-VU acetate safety envelopes keep your production orders, charts, blueprints and other important factory papers crisp and clean, despite constant handling. Used by thousands of large and small plants. Make the test yourself . . . at our expense. Send for FREE sample and catalogue today.

AMERICAN KLEER-VU PLASTICS, INC.

53-04G Grand Ave. Maspeth 78, N. Y.

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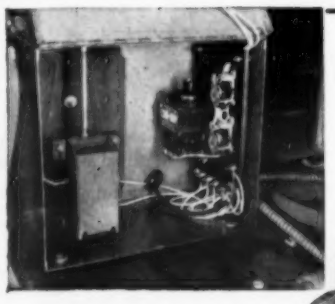


"Years of service— and over a million operations a year"
D. W. Onan & Sons Inc.

AGASTAT

light . . . versatile

TIME DELAY RELAYS

AGASTATS are used by Onan to prevent starting of their standby plant on momentary power failure, to prevent stopping of the plant until power has returned for a given time, and on some lugging presses that operate over a million times a year. Onan reports several years of service with a minimum of attention.

AGASTATS are solenoid actuated and pneumatically timed. They are light, compact, dustproof and can be furnished to operate mounted in any position. There is an AGASTAT model that is right for your needs.

Write for Bulletin
Dept. A2-75

AGA

Division of Elastic Stop Nut Corporation of America
1027 Newark Avenue, Elizabeth 3, New Jersey

For more details circle NED-191 G3 on enclosed inquiry slip

For more details circle NED-192 G3 on enclosed inquiry slip

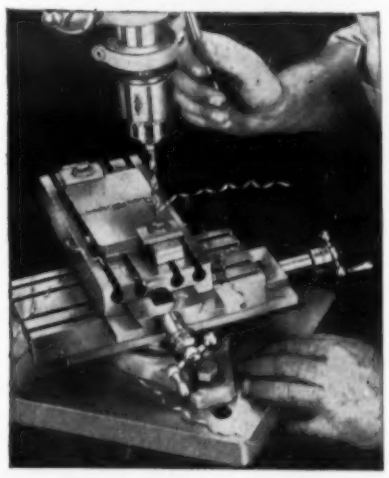
BALL SCREWJACK is practically frictionless because of calculated tolerances

Utilizing principles of screw expansion and near-frictionless spacer ball coupled with tolerances of 0.0004-in. in the ball races, Vard ball screwjacks maintain a constant ratio of characteristics, with high average efficiency. They are made up with mating nut and screw, each having helical ball races, precision ground to accurate tolerances. Ball circuit is closed with the return tube which is attached to the nut. This allows the balls to circulate freely, resulting in the translation of rotary motion into linear motion with minimum of loss due to friction.

Screw jacks are offered in standard sizes with from 3/8 to 4-in. diameters and up to 22 ft in length. They will also be manufactured to engineering specifications for any specific application in which transmission of rotary motion into linear motion is required. Efficiencies as high as 95 per cent are obtained. Made by **Vard Inc.**, Dept. D, Pasadena 8, Calif.

For more details circle NED-193 G3 on enclosed inquiry slip

UNIVERSAL TABLE adapts to most machine tools



For combination angular and straight line cuts on shapers, milling machines and grinders, this universal table has identical upper and lower halves. The upper table can be removed when required. It can also be used to convert a drill press to a light milling machine, and for jig boring as a lathe attachment. Both upper and lower slides have a maximum travel of 4 in. and revolve on graduated swivels through 360 degrees. Work tables have four slots for clamp bolts and measure 4 x 8 7/8-in. Adjustment is provided to correct any inaccuracy that might develop with age. Made by **South Bend Lathe Works**, 307 E. Madison St., South Bend 22, Ind.

For more details circle NED-194 G3 on enclosed inquiry slip

LETS EXPANSION KEEP ON THE MOVE

PENFLEX TUBING
ABSORBS THERMAL EXPANSION...PROVIDES FLEXIBILITY

Write for this helpful folder, "Flexineering."

Thermal expansion moved rigid steel feed pipes in a large power plant, showered coal dust on equipment and floors.

Then Penflex "Flexineering" recommended a flexible "overcoat" of interlocking galvanized steel. Penflex tubing now forms a flexible seal between hopper and tube, protects delivery of powdered fuel.

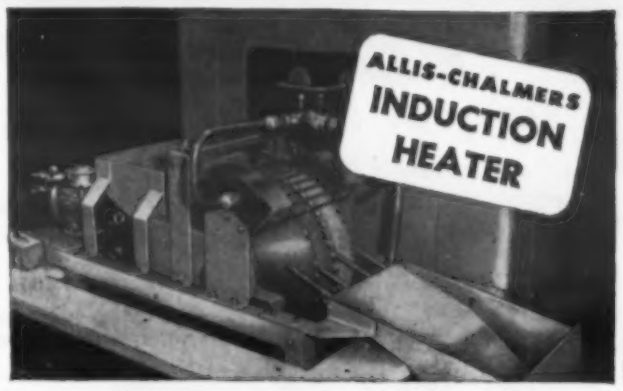
Let "Flexineering" help you, with Penflex interlocking and seamless welded corrugated flexible tubing . . . metallic hose, tubing or coupling . . . automatic barrel fillers, rivet passers, and accessories.

Pennsylvania Flexible Metallic Tubing Co., Inc., 7208 Powers Lane, Phila. 42, Pa.

PENFLEX

HEART OF INDUSTRY'S LIFE LINES

For more details circle NED-195 G3 on enclosed inquiry slip



Hardens Both Ends of 3600 Lifter Rods Per Hour

Get high production like this with an Allis-Chalmers induction heater. In this application push rods are picked up from a hopper by a rotating wheel, conveyed through the coil, heated at both ends simultaneously, then oil spray quenched and deposited in a bin.

This same heater can be used for brazing, soldering, annealing, as well as case and through hardening.

High production, plus versatility, plus low operating cost make the Allis-Chalmers induction heater an important time and money saver. Find out what it can do for you. Call your nearby Allis-Chalmers district office or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-3976

ALLIS-CHALMERS

For more details circle NED-196 G3 on enclosed inquiry slip

WHEN YOU NEED NEW TIRES FOR YOUR LIFT TRUCKS

Call your truck distributor

● When you entrust your lift truck repairs to your truck distributor, you know the finished repair job will be complete and satisfactory. But, how about new tires? Your truck distributor can re-equip your trucks with tires, too! He knows what's best for your trucks . . . that's why he stocks **Monarch Mono-Cushions.** Place all your truck service under one roof . . . let your truck distributor service them from seat . . . to **Monarch Mono-Cushion** tires . . . the tires that keep your trucks steady.

THE MONARCH RUBBER COMPANY
501 LINCOLN PARK
HARTVILLE, OHIO

For more details circle NED-197 G3 on enclosed inquiry slip

Fastest Torquer in the World!!

...the Amazing New PROTO Torque-Limiting Wrench with Automatic Release!

Vastly superior to old-fashioned torque-indicating types. Super-Fast . . . Accurate . . . Easy To Use . . . Versatile . . . Rugged . . . Low-Priced . . . Does Better Work

See and buy this great new torquer at your nearest PROTO dealer. Send for free folder (enclose 10¢ for 68-page catalog of *complete* PROTO line) to
PLOMB TOOL COMPANY
2275X Santa Fe Avenue
Los Angeles 54, Calif.

SIX MODELS

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PROTO TOOLS LOS ANGELES

Remember! PROTO means PROfessional TOols

Eastern Factory—Jamestown, N.Y.
Canadian Factory—London, Ont.

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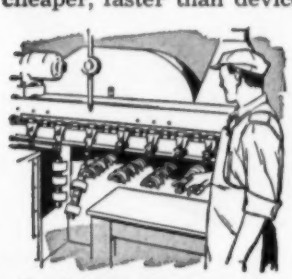
See how Carboloy magnets save time, money in the shop

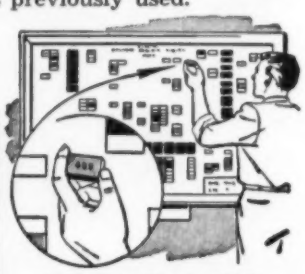
FREE PERMANENT MAGNET IDEA KIT

Send for free magnet kit containing suggestions that really pay off in the plant. See how Carboloy permanent magnets can eliminate costly clamps, jigs, vises . . . how they'll save you time and maintenance costs. Magnets need no electric power. Cost nothing to operate – last forever.

Shown below are a few of the ways magnets are used as mechanical holding devices – working better, cheaper, faster than devices previously used.

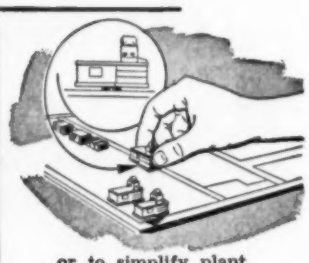


In plating-rack conveyors, for example . . .



to show traffic on vehicle dispatch board . . .

to attach ground from portable welders . . .



or to simplify plant layout planning.

Get a "You-Try-It" Magnet Assortment

Shop Package No. 1 – Contains 48 Carboloy Permanent magnets: 8 styles – 3 pairs each. Magnetic pull up to 2 lbs. per magnet. Price $10.00. Send coupon today.

Shop Package No. 2 – Contains 18 magnets: 4 styles – 2 pairs each; and 1 style – 1 pair. Magnetic pull from 3 lbs. to 12 lbs. per magnet. Price $15.00. Order today.

"Carboloy" is the trademark of the Carboloy Department of General Electric Company

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DEPARTMENT OF GENERAL ELECTRIC COMPANY
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☐ Send me free Magnet Idea Kit
☐ Send me.....Shop Package No. 1 at $10.00 each, postpaid.
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☐ Enclosed is check or money order for $..... ☐ Send C.O.D.

Name_____
Address_____
City_____ Zone_____ State_____

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MICROSCOPE-METALLOGRAPH features compact inverted design

By making use of a compact inverted design, the CSF microscope - metallograph confines all operations to an area of 13 x 8 x 8 in. An inclined eyepiece makes possible observation from a seated position. A slight pull on the mobile prism knob directs the light path to the camera screen for recording the image or for group observation. Sharp and brilliant visual observation is provided for all magnifications up to 1000X and photographic and projection observation up to 1500X. A 30-w concentrated filament low voltage bulb is the light source. Shock absorbent mounting dampens external vibrations. Available from **Opplem Co.**, 352A Fourth Ave., New York 10, N. Y.

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WELDING HEAD SHIELD head band fits comfortably

Pliable plastic head band which fits around and over the head, is feature of Comfort-Shield for arc welding. The head shield can be put on with one hand and is of one-piece fiber construction. Clearance around head is sufficient for circulation of air. Adjustable stops limit the drop to any point desired by welder. Shield takes standard 2 x 4¼-in. lens and glass. Made by **Lincoln Electric Co.**, Dept. H, 22801 St. Clair Ave., Cleveland 17, O.

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DO YOU KNOW? The Bartrev press, already in operation in England, is fully automatic and is able to convert wood and wood wastes into high quality wood panels on a continuous basis. A single press is using over 50 tons of normally wasted wood materials in turning out 30,000,000 sq ft of paneling on a 24-hr schedule. Cost is about $615,000. Several presses are under construction. Distributed by Aries Fiberboard Co., 400 Madison Ave., New York 17, N. Y.

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Striping is easy

GRAVITY MARKER A low cost model for marking aisles, loading zones, parking lots. Paints sharp, clear lines 2", 3" or 4" wide on any surface. Protects employees from danger.

ECONO-LINER spray paints continuous or skip lines 2" to 6" wide. Adjustable, free-floating paint guides follow contour of any surface. Converts to a portable spray rig for painting.

Paints lines within ⅛" of fixed objects or stacked cartons.
Paints sharp, clear lines on concrete, wood block, black top, brick or any surface.

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SAVE UP TO 85%

WAR SURPLUS SAVINGS

STAND MAGNIFIER
Handy stand magnifier with universal adjustments. Overall height: 6". Has powerful, clear magnifying lens. 1.49

MAGNETIC BASE-INDICATOR HOLDER . . .
A time saver for precision checking. Magnetic base fits curved or flat surface. Has 45-50 lb. pull. Stainless steel 6½" rod mounted in ball socket permits universal settings . . 3.95
Note: We have complete line of instruments, depth gauges, inspection mirrors, etc. WRITE TODAY

GEAR HEAD MOTORS
Heavy duty, G.E. Gear Head motor. 2 HP, 24V. DC, 125 amp., reversible motor drives a reduction gear unit giving 36 to 1 ratio at take-off. Also will operate on 6 or 12 volts.
36 to 1 G.E. (306 shaft RPM)
28 to 1 Eclipse (130 shaft RPM)
40 to 1 Eclipse (110 shaft RPM) 10.95 EA.

ELECTRIC ACTUATORS
Hundreds of uses for any mechanical device needing controlled 2 way action. Opens, closes, raises or lowers doors – windows – gates – valves. CTU-2 – Foote Linear Actuator – 24 volt, DC, 8500 RPM, 1/6 HP – series wound motor. 4½" stroke in 12½ sec. Compression and tension loads up to 750 lbs. Adjustable micro switch for limits of travel. Overall legth., retracted 11" 7.95
We also carry many more sizes and types of Actuators. Write today for information.

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Amazing Values! 1000's of items for Ship., Mechanic, Sportsman, etc. Save on Machine Tools, Hydraulics, Pumps, Valves, Hand & Power Tools, Instruments, etc. Send for your copy today!

NEW INSIDE – OUTSIDE VERNIER CALIPERS
German made by one of Europe's leading specialists in precision tools. Measures inside-outside & depth in .001" to 6" in 1000ths and 1/10mm to 150mm in 10ths. 9.75
MICROMETERS – 0" to 1" in 1,000ths. 9.75
Has lock-nut & ratchet ...ONLY – . . .

BENDIX HYDRAULIC PUMP & MOTOR
Has 3-1/2 GPM capacity at 60 PSI. Motor is 1½ HP, 24V, D.C. Will operate on either 12 or 32V, DC current. Has built-in relief valve adj. to 1500 PSI. This unit ideal for hyd. lifts, portable loaders, etc. 19.50

HYDRAULIC HAND PUMP
Operating pressure 2000 PSI. Cap., 1.5 cu. in per complete cycle . . . 12.75

HYDRAULIC ACCUMULATORS
A-2B FLOATING PISTON TYPE – 4" x 18" Built to stand 2,000 PSI 12.75
A-5 VICKERS – 10" dia. Ball type. Built to stand 2000 P.S.I. 24.75

HYDRAULIC CYLINDERS
Gives 20,000 lb. thrust (push or pull) using 1500 PSI line pressure as obtained from our hydraulic pumps. Will produce up to 40,000 lb. thrust with 3000 PSI. Can also be used on low pressure air systems. 4" bore; 18" stroke; 30½" length. Ideal for home – shop machinery. 27.95

No. 5 HYDRAULIC CYLINDER
Double action. Bore is 1" – Shaft ½". Has stroke of 2½" to 4". Stroke can be adjusted with internal sleeve stops. Overall length is 8½". Will take 1500 lbs. continuous duty. 3000 lbs. intermittent. Will lift or push up to 1100 lbs. 5.75

We stock over 30,000 Hydraulic Cylinders, Valves, Pumps, Accumulators, Hand Pumps, Motors, Hoses, etc. All at Money Saving Prices.

PALLEY SUPPLY CO. 2263 E. VERNON AVE. Dept. NED-7 LOS ANGELES 58, CALIF.

Order from this ad. Pay by M.O. or check. P.O's. accepted from D&B firms. ½ deposit with C.O.D's. All Prices F.O.B. Los Angeles

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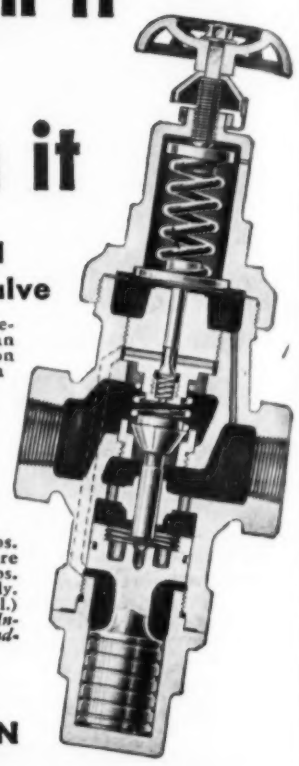
Just Clean it to Maintain it

Masoneilan No. 11 Pressure Reducing Valve



Service records indicate maintenance consists of little more than keeping the moving parts clean on this better-than-ever Masoneilan Pilot Operated Steam Pressure Reducing Valve. Users tell us it's the most accurate, dependable reducing valve they've ever installed.

Sturdy. Corrosion-resistant. With wide range of reduced pressure settings. All parts may be removed with valve in the line.

Initial pressure up to 250 lbs. reduced to any desired pressure – 10 – 90 lbs. or 75 – 225 lbs. Sizes ½" to 2" with bronze body. (Also available in iron and steel.)

Call your local Mason-Neilan Industrial Distributor for fast, dependable service.

MASONEILAN
MASON-NEILAN REGULATOR CO.
1189 Adams Street, Boston 24, Mass., U. S. A.

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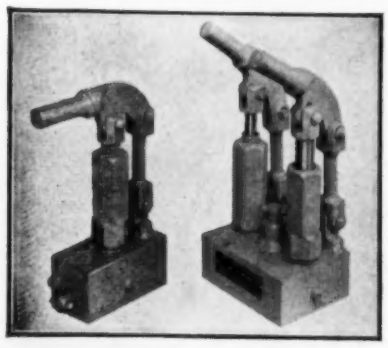
HAND HYDRAULIC PUMP

Single and Double Designs To 20,000 Pounds



Interchangeable Pistons ⅜-½-¾ inch
★
Integral Release Valve
★
Unit Reservoir 360 cu. in.

Pressure range is 3,000 to 20,000 pounds. Pipe connections measure ¼ inch. Handle length is 18 inches. Weight is 8 to 18 pounds. Can be bolted or welded into position. We specialize in hand pump units to operate in temperatures from minus 65 F to plus 160 F and with any capacity reservoirs required.

WILLIAM S. PINE
1635 E. 22nd St., Los Angeles 11, Calif.

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NEW SPECTACLES
with three nose-bridge sizes

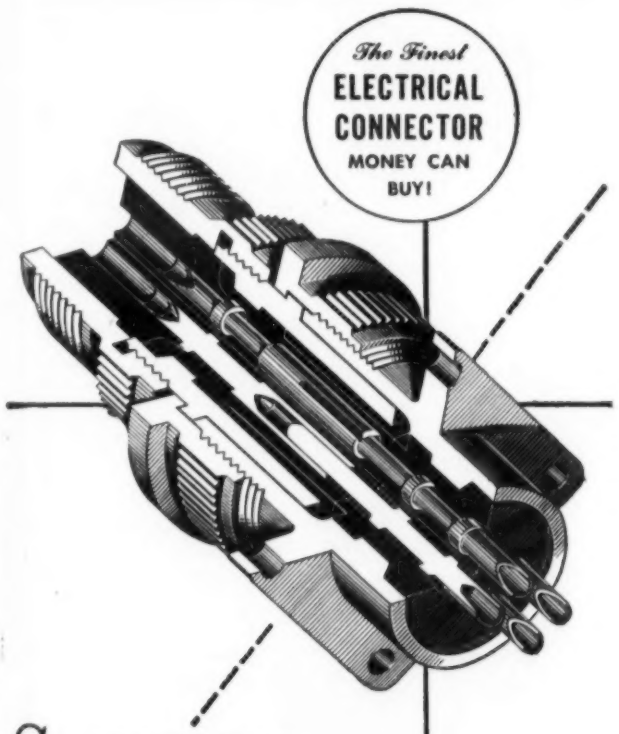
Many industrial workers have hopefully waited for spectacles having a nose bridge wide or narrow enough to really feel comfortable. Regardless of the industrial spectacles you now furnish, you should have a supply of these spectacles to fit all workers, regardless of whether they require a nose bridge which is small, 22 m/m; average, 24 m/m; or large, 26 m/m.

The custom quality, flesh amber tint frame, is extremely light weight. The rigid front has high bar and temples. Hinges are unusually durable, fastened with four holding rivets. Temples are of sturdy cable, plastic covered, with a broad molded section at the front, and rounded plastic to fit comfortably over the ear. Including Hardened lenses, weight only 1¾ ounces. Spectacles are offered in two lens sizes:

No. 674: Lens 44 m/m (42 x 45) drop oval.
No. 677: Lens 47 m/m (45 x 43) drop oval.

Both spectacles are available with 22, 24, 26 m/m nose bridges. Also your choice of three lens styles: L C G clear X L Hardened, 6.00 diopter curve; L C H Clear X L Hardened, 1.25 diopter curve; and L. G. H Sel Green Hardened, 1.25 diopter curve. Order from your dealer, or write us direct for additional details and prices. **Sellstrom Manufacturing Company,** 654 North Aberdeen Street, Chicago 22, Ill. Advt.

▲ For more details circle **NED-207 G3** on enclosed inquiry slip ▲



SCINFLEX ASSURES
YOU PEAK PROTECTION
AGAINST CIRCUIT FAILURE

When operating conditions demand an electrical connector that will stand up under the most rugged requirements, always choose Bendix Scinflex Electrical Connectors. The insert material, an exclusive Bendix development, is one of our contributions to the electrical connector industry. The dielectric strength remains well above requirements within the temperature range of −67°F to +275°F. It makes possible a design increasing resistance to flashover and creepage. It withstands maximum conditions of current and voltage without breakdown. But that is only part of the story. It's also the reason why they are vibration-proof and moisture-proof. So, naturally, it pays to specify Bendix Scinflex Connectors and get this extra protection. Our sales department will be glad to furnish complete information on request.

• Moisture-Proof • Radio Quiet • Single Piece Inserts • Vibration-Proof • Light Weight • High Insulation Resistance • High Resistance to Fuels and Oils • Fungus Resistant • Easy Assembly and Disassembly • Fewer Parts than any other Connector • No additional solder required.

BENDIX SCINFLEX
ELECTRICAL CONNECTORS

Bendix
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Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.
FACTORY BRANCH OFFICES: 118 E. Providencia Ave., Burbank, Calif. • Stephenson Bldg., 6560 Cass Ave., Detroit 2, Michigan • Brouwer Bldg., 176 W. Wisconsin Avenue, Milwaukee, Wisconsin • 582 Market Street, San Francisco 4, California

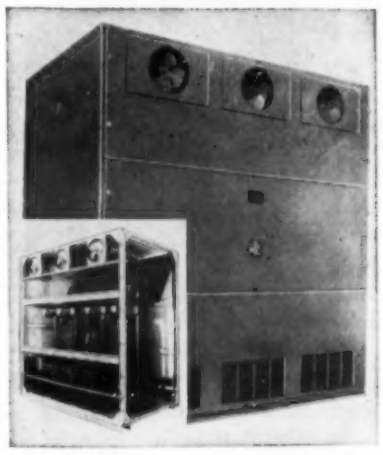
▲ For more details circle **NED-208 G3** on enclosed inquiry slip ▲

OPEN THROAT PRESS
has detachable hydraulic ram

An open throat which permits easy entry and removal of work is a feature of this 30-ton press, equipped with an OCT Power-Twin center hole ram. A remotely controlled 10,000 psi hydraulic pump, with 6 ft of high pressure hose, actuates the ram which can be easily detached for use with standard Grip-o-matic pullers and push-pullers in field or shop maintenance. Lower press plate is adjustable to three positions. Made by **Owatonna Tool Co.,** 436 Cedar St., Owatonna, Minn.

▲ For more details circle **NED-209 G3** on enclosed inquiry slip ▲

DUAL-RATED TRANSFORMER
has housing blower and thermostat



Taking overloads for long periods, this dry-type heat-proof insulator transformer has blowers mounted in the housing, and a thermostat located in the coils. One rating covers normal operation. After a certain heat is reached the thermostat operates the blowers, which increase capacity by a full one-third. Baffles in the housing direct the air over and through the coils, and vents are located front and rear, top and bottom. They are available in 100 to 3000-kva ratings in voltages to 15,000-v. Made by **Marcus Transformer Co.,** Dept. 7, 32-34 Mongomery St., Hillside 5, N. J.

▲ For more details circle **NED-210 G3** on enclosed inquiry slip ▲

DO YOU KNOW? You can get "for free" a convenient wall chart containing six-place decimal equivalents for fractions from 1/64 to 1 in increments of 1/64 as well as a monthly calendar, dating from July 1, 1953 to July 1, 1954. Just write to Dayton Rogers Mfg. Co., 2822 Thirteenth Ave. S., Minneapolis 7, Minn.

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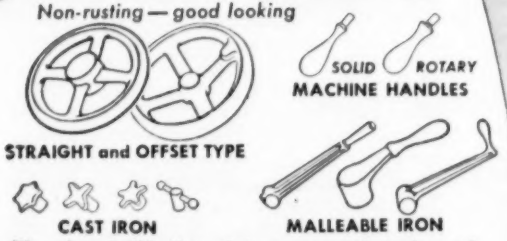
Dependable
MEASURING & CHECKING EQUIPMENT

and Now
HAND WHEELS, KNOBS, HANDLES
Cadmium Plated READY TO DELIVER
Non-rusting — good looking



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We also build jigs, fixtures, special tools and machinery. Send us your blueprints.

MACHINE PRODUCTS CORPORATION
6771 E. McNichols Rd. Dept. B Detroit 12, Mich.

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WISSCO STEEL PROCESSING BELT

Turn your products out faster, more economically in continuous straight-line production with a Wissco Belt. To order, write or call our nearest sales office.

THE COLORADO FUEL AND IRON CORPORATION—Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION—Oakland, California
WICKWIRE SPENCER STEEL DIVISION—Atlanta • Boston • Buffalo
Chicago • Detroit • New York • Philadelphia

1431

WISSCO BELTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION CFI

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in over 900
standard sizes

• You can secure virtually any size sleeve bearing you need from your local Johnson Bearing Distributor. He handles the widest range of sizes on the market . . . from ¼ inch to 4½ inch ID, the wall thickness you need and the right length. You'll save time with Johnson General Purpose Cast Bronze Bearings . . . and save money, too.

JOHNSON BRONZE CO.
580 So. Mill St., New Castle, Pa.

OTHER BEARING TYPES
Electric Motor • Graphited • Self-Lubricating Powder Metallurgy • Universal Bronze Bars • Babbitt.

JOHNSON JB BEARINGS
Sleeve-Type
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SPECIALS

IN BRASS
SILICON BRONZE
NAVAL BRONZE
COPPER
NICKEL
ALUMINUM
MONEL
STAINLESS STEEL

Harper Everlasting Fastenings are corrosion-resistant—produced from non-ferrous metals and all stainless steels. For fastenings that improve the appearance of your equipment—add years to its life, call Harper—largest manufacturer in its field. Over 7,000 different items in stock to meet your requirements. Write for catalog.

HARPER
EVERLASTING FASTENINGS

The H. M. Harper Company
8212 Lehigh Avenue
Morton Grove, Illinois
Please send me Harper Catalog 25.
Name.....
Company.....
Address.....
City.....State.....

▲ For more details circle **NED-215 G3** on enclosed inquiry slip ▲

MILTON ROY CONTROLLED VOLUME PUMP CUTS PRODUCTION TIME 50%

• "miniPump"—miniature member of Milton Roy Controlled Volume Pumps, was installed in a plant process operation. It replaced a costly manual process in the pumping of one tenth of a milliliter (1/300 of an ounce) of liquid into open cells on each stroke of the pump. The conversion to automatic continuous injection cut production time 50%—and gave greater accuracy!

These versatile instruments meter any clear liquid in capacities from 3 to 3200 milliliters per hour against pressures up to 1000 pounds per square inch.

• Applications for the pump are varied—ranging from laboratory and pilot plant use to full-scale production operations. They are used as individual units or as components of instrumentation or automatic control systems.

• *New Bulletin No. 653* illustrates and describes "miniPump"—its design—construction—uses. Write today for your free copy!

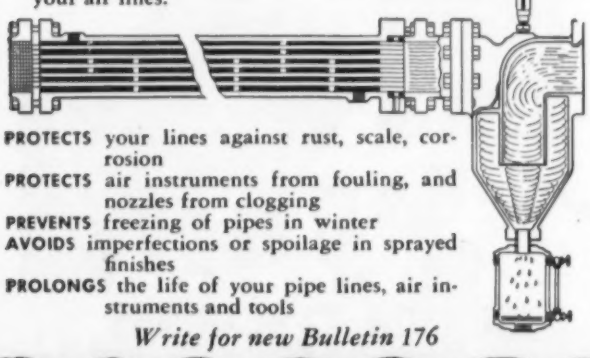
MILTON ROY COMPANY
1304 E. MERMAID LANE • PHILADELPHIA 18, PA.

▲ For more details circle NED-216 G3 on enclosed inquiry slip ▲

You Can be Sure of Clean Dry Air for your Compressed Air Tools with ADAMS Aftercooler and Cyclone Separator

3500 Gallons
1 YEAR'S water extraction from air lines equipped with Adams Aftercooler and Cyclone Separator.

• Reducing compressed air temperature to within 10° of the cooling water, Adams Equipment condenses and removes destructive water and oil vapors from your air lines.



PROTECTS your lines against rust, scale, corrosion
PROTECTS air instruments from fouling, and nozzles from clogging
PREVENTS freezing of pipes in winter
AVOIDS imperfections or spoilage in sprayed finishes
PROLONGS the life of your pipe lines, air instruments and tools

Write for new Bulletin 176

R. P. ADAMS CO., INC. 227 E. PARK DRIVE BUFFALO 17, N. Y.

▲ For more details circle NED-217 G3 on enclosed inquiry slip ▲

You Get POWER UNLIMITED with featherweight Mall PRECISION AIR TOOLS

Pictured above
No. PG-K-1030L
"Midget" collet die grinder.

You're not limited to ampere ratings and voltages with air power. MALL pneumatic tools let you pour on the power shift after shift. Lightweight MALL air tools eliminate worker fatigue—boost production. Choose from among many styles and sizes of MALL.

POLISHERS • DISC SANDERS • ANGLE DRILLS • STRAIGHT DRILLS NUT SETTERS • SCREWDRIVERS IMPACT WRENCHES • GRINDERS

Get your free copy of the 1953 Mall Pneumatic Tool Catalog.

MALL TOOL COMPANY
7727 S. Chicago Ave., Chicago 19, Illinois
Send me the 1953 MALL Pneumatic Tool Catalog.
Name_____
Company_____
Address_____
MU-31

▲ For more details circle NED-218 G3 on enclosed inquiry slip ▲

MULTIPURPOSE TABLE lightweight allsteel construction

Functioning as a typing table, desk, storage cabinet and stand in one unit, the Utili-Table is 29-in. high, 32-in. wide and 20-in. deep, with a 16½-in. knee opening. Lightweight all-steel construction finished in neutral gray baked enamel fits in with most decorating schemes. A deluxe model with a 4-in. deep right hand drawer is available. Made by **Halverson Specialty Sales Co.,** 1221 W. Chestnut St., Chicago 22, Ill.

▲ For more details circle NED-219 G3 on enclosed inquiry slip ▲

COMBINATION LOCKERS are of coin-operated type

Consisting of seven individual lockers in single unit, Guardian model GF-7 is stainless steel, coin-operated unit for industrial plant and commercial use. Tamperproof locking mechanism is removable for replacement. Also, by use of a security key, the lock cylinder can be removed from locking mechanism and a replacement inserted without removing the mechanism or disturbing the cumulative coin register reading. Made by **Guardian Lockers, Inc.,** 11 Young St., Loudonville, O.

▲ For more details circle NED-220 G3 on enclosed inquiry slip ▲

DO YOU KNOW? "Proven Formulas for Low Cost Business Films" is a free booklet which describes a service that is offered to industrial firms. It is now possible for almost any company, no matter how small, to tell the story of its services or products on film and in color and sound for a nominal cost. Essentially the service offered involves that the manufacturer "shoot" his own picture and forward it to Hollywood for finishing. Finishing consists of editing and writing both the film and the story, synchronizing the necessary narration and music, creation of animation if it is needed, and finally, delivering the finished film to the manufacturer complete with titles, fades, etc. Full information available from Telefilm, Inc., 6039 Hollywood Blvd., Hollywood 28, Calif.

▲ For more details circle NED-221 G3 on enclosed inquiry slip ▲

NEW Tinnerman Push-On Speed Nuts®

Available Now ...at a NEW LOW COST!

Start by hand...

Zip down on Studs!

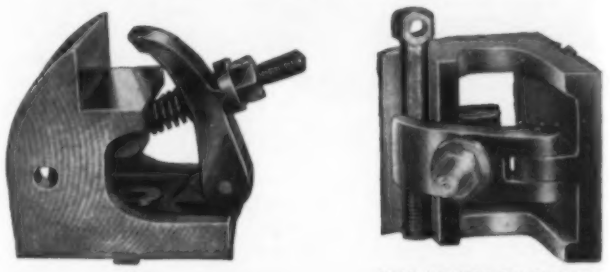
A newly created line of standard Spring Steel Push-On type SPEED NUTS now available at an average price reduction of 25%! This is made possible by large volume, high-speed production. Tinnerman, originators of Push-On type SPEED NUTS, has developed the C12000 Series to fit all popular stud sizes, round, D-shaped, and rectangular. They meet most application requirements... are available in rust-resistant finish. For full cost-saving details on these new low-cost SPEED NUT brand fasteners, see your Tinnerman representative, or write direct to:

TINNERMAN PRODUCTS, INC.
Dept. 12, Box 6688, Cleveland 1, Ohio

▲ For more details circle NED-222 G3 on enclosed inquiry slip ▲

• HART • MILLING FIXTURES
MASTERS OF 1000 SETUPS

ELIMINATE 1000 NEEDS FOR SPECIAL—AND EXPENSIVE JIGS AND FIXTURES



USED IN VERTICAL POSITION

HART MILLING FIXTURES make themselves popular and profitable in any shop—are used in either horizontal or vertical position. Will hold round, hexagonal, octagonal, or square stock, aligning the work with the machine. Grip holds the work on bottom as well as on back. Generally sold in pairs. Made in 4 sizes—to hold stock from ½ to 5 inches.

Write for new bulletin.

WALTER W. FIELD & SON INC.
39 HAYWARD STREET, CAMBRIDGE 42, MASS.

▲ For more details circle NED-223 G3 on enclosed inquiry slip ▲

Let Us Prove...
better, faster production at lower cost

job-engineered, master-machined

Choose FORD HSS GROUND CUTTERS

The superior performance of FORD HSS Ground Cutters has been proven in on-the-job tests in countless applications, on ferrous or non-ferrous materials. If faster, better production at lower cost is your goal, get the facts on FORD.

FORD -- *the complete line!*
HSS ground cutters, rotary files, countersinks, CARBIDE cutters, end mills, grinding burs

Complete Details, Operating Data
All specifications plus informative operational data on more than 300 FORD rotary tools contained in new FORD Catalogue No. 207. Write for yours!

FORD regrinding service adds tool life, reduces tool costs!

M. A. FORD MFG. CO., INC.
Pioneers in rotary tools for more than 30 years
721 West River Street, Davenport, Iowa

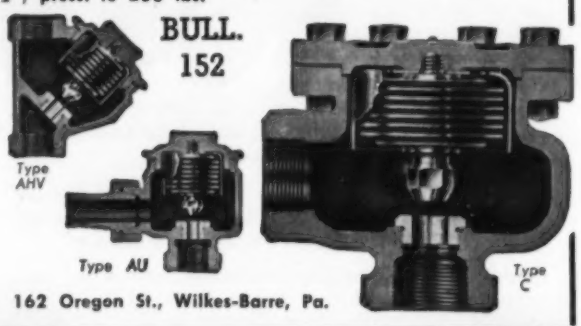
▲ For more details circle NED-224 G3 on enclosed inquiry slip ▲

Nicholson Steam Traps

LARGER ORIFICE SAVES 4 WAYS

for This Firm

A large mid-West plant recently was able to replace 1¼" mechanical traps with Nicholson ¾" thermostatic traps. Because, with much larger valve orifice, Nicholson traps feature 2 to 6 times average drainage capacity. In addition to "excellent" heat transfer results, they find the smaller traps cut these 4 costs: traps, installation, piping, and steam cost (radiation). 5 types: size ¼" to 2"; press. to 250 lbs.



162 Oregon St., Wilkes-Barre, Pa.

W. H. NICHOLSON & CO.

TRAPS · VALVES · FLOATS

For more details circle NED-225 G3 on enclosed inquiry slip

New! Revolutionary!

OVERLOAD RELEASE CLUTCH

WORKS *Instantaneously!*

- Instantaneous trigger action
- Works consistently within very close limits
- Your machine will resume operation at exact cycle point of release
- A safety device of universal, industrial application, easily installed on sprocket, chain, belt or gear drives
- Can be used over a wide range of speeds and shaft sizes

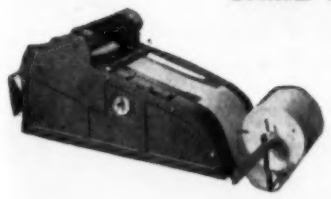
Catalog on Request

Overload Release Clutch Co., Inc. 1162 Stuyvesant Ave. Irvington, N. J.

For more details circle NED-226 G3 on enclosed inquiry slip

STOP BUYING LABELS

● NOW YOU CAN PRINT YOUR OWN LABELS AT THE SAME TIME YOU ADDRESS OR MARK THEM!



More firms everyday are eliminating the need for expensive, troublesome pre-printed shipping and identification labels with the new Weber Tag-O-Graph. This amazing machine prints, addresses, or marks shipping and identification labels from a roll of gummed or ungummed stock, in one continuous operation...at the rate of 100 to 150 per minute. And counts and cuts them to practically any size you want, too! Reproduces from an inexpensive, easily-prepared stencil.

Why not have the size and type of label you want...in the quantities you need...when you want them...all at a moment's notice?

- √ Prints, addresses, marks labels in one operation.
- √ Counts and cuts them to size, too.
- √ Fast—100 to 150 labels per minute.
- √ Produces hundreds of different size labels.

Write today for samples of labels printed by this machine and further information.

Weber Addressing Machine Co.

243 West Central Road • Mount Prospect, Illinois

"For the answers to all your addressing, labeling and marking problems"

For more details circle NED-227 G3 on enclosed inquiry slip

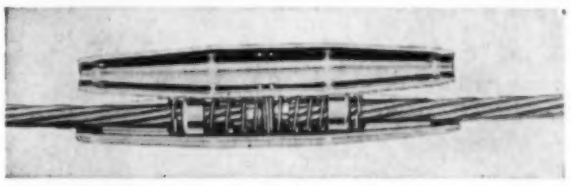
MAINTENANCE LIFT raises platform 12 ft 8 in. high

Only one man is needed for overhead maintenance jobs using the Lift-A-Loft which will raise platform up to 12 ft 8 in. high. Man rides the battery-powered unit to destination, pushes button and is quickly and safely hoisted to ceiling objective along with all the tools and equipment he will need for the day's work. Objectives as high as 19 ft can be reached. Made by **Barrett-Cravens Co.**, 4609 S. Western Blvd., Chicago 9, Ill.

For more details circle NED-228 G3 on enclosed inquiry slip

CABLE SPLICE conductors feed through jaws

Made of copper and copper alloys for copper conductors and aluminum and aluminum alloys for aluminum conductors, the 55 series straightline splice re-



quires conductors to feed through the jaws. Splice has openings only at tube ends, and these are closed by pilot cups until conductors are inserted. Factory-installed cups guide the conductors "home" and prevent a premature or false grip. Bent or out-of-lay strand or burred conductors cannot catch in the jaws, being either "refused" or covered by the pilot cup. Complete closure prevents entrance of gritty materials. Made by **Reliable Electric Co.**, 3147 Carroll Ave., Chicago 12, Ill.

For more details circle NED-229 G3 on enclosed inquiry slip

Broaching Practice

"Broaching Practice" is title of an 80-page handbook containing useful information on broaching, from design to trouble shooting. Chapter subjects include broachability of materials; applications and limitations of broaching; broach design and manufacture; information needed to design, manufacture and quote broaches; handling and maintenance, and broaching troubles and how to correct them. Send your request on company letterhead to National Broach & Machine Co., 5603 St. Jean Ave., Detroit 13, Mich.

For more details circle NED-230 G3 on enclosed inquiry slip

GET THESE FEATURES IN ALL YOUR FUTURE *CYLINDERS*

Hydraulic High Pressure

- ★ Centrifugally Cast Cylinder Bodies
- ★ Cast Steel or Semi-Steel End Caps
- ★ Cast Iron Piston with Automotive Type Rings
- ★ Leakproof Packing. "O" Rings in each end cap
- ★ Adjustable Port Location
- ★ Fixed Cushions Standard Construction — Adjustable Cushions Optional

Air and Low Pressure Hydraulic

- ★ Compact — No Tie Rods
- ★ Extra heavy walls of selected tubing
- ★ Metal to metal assembly preloads piston cups
- ★ Automatic rod packing requires no take-up. Seals under pressure
- ★ Aluminum alloy piston with steel cup retainer
- ★ Extra long rod guide

HYDRO-LINE CYLINDERS CONFORM TO J. I. C. STANDARDS

➡ *FREE Additional Data*

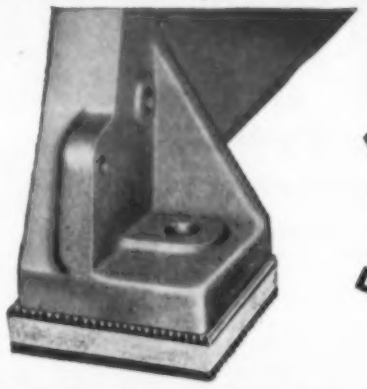
covering additional construction and performance features are included in this catalog. Write for your copy today. Ask for bulletin 350.

Hydro-Line

HYDRO-LINE MFG. CO. 701 19th St. ROCKFORD, ILLINOIS

For more details circle NED-231 G3 on enclosed inquiry slip

It's SIMPLE To Control VIBRATION and NOISE with Elasto-Rib...



NO BOLTING

NO CEMENTING

LOW COST

Elasto-Rib effectively stops transmission of vibration and noise by utilizing the elastic and damping properties of both cork and rubber.

It is fast and easy to install. For most machine applications, no bolts, lag screws or cement are required. Sheets 24" x 36" can be sawed or cut to size as needed.

New, illustrated booklet tells all about Elasto-Rib and how to install it. Ask for ER-701 and free sample.

THE KORFUND COMPANY, INC.

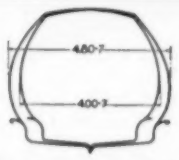
KORFUND VIBRATION CONTROL — SPRINGS — RUBBER — CORK

48-35P Thirty Second Place, Long Island City 1, N. Y.
In Canada: 510 Canal Bank, Ville St. Pierre, Montreal

For more details circle NED-232 G3 on enclosed inquiry slip

HERE ARE SOME OF THE BIG ADVANTAGES YOU GET WITH GOODYEAR WIDE BASE TIRES

Wide, flatter tread—longer wear
Lower cost per mile
Low rolling resistance
Greater cross-section—more air volume
Increased flotation
Greater stability



280/250 x 4	480/400 x 7
340/300 x 5	480/400 x 8
340/300 x 7	530/450 x 7
410/350 x 6	570/500 x 8

Here are the sizes of Goodyear tires that fit the new Wide Base Rims. Note, for example, in the new size marking, the 400 x 7 is now marked 480/400 x 7.

Goodyear now offers a complete line of

PNEUMATIC INDUSTRIAL TIRES

for Wide Base (Super Width) Rims

To meet your particular needs, Goodyear now offers a complete line of Pneumatic Industrial Tires to fit the new Wide Base Rims. These sturdy tires with the wide, flatter tread and increased air volume offer low rolling resistance, greater stability and longer wear.

Goodyear will be glad to send a fully qualified technical expert to your plant—to analyze your operation and recommend the most efficient type of tire for your service. His services are free, of course. To bring him, write:

Goodyear, Industrial Tire Sales, Akron 16, Ohio.

GOODYEAR

INDUSTRIAL TIRES

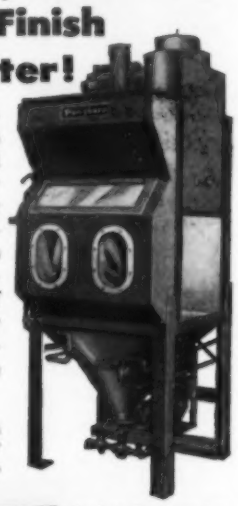
For more details circle NED-233 G3 on enclosed inquiry slip

BEFORE

Mold cleaned and finished by Pangborn Hydro-Finish in *minutes!*

AFTER

Pangborn Hydro-Finish cleans better—faster!



Molds, dies, tools—Pangborn Hydro-Finish cleans them quickly, leaves them bright and ready to use! Hand cleaning and polishing is practically eliminated! And production is further speeded up because Pangborn Hydro-Finish, operated by one man, removes scale and discoloration in minutes instead of hours. In addition, the use of fine mesh abrasives suspended in water gives you a precision job . . . holds tolerances to .0001" . . . protects delicate equipment.

GET COMPLETE FACTS on Hydro-Finish and how it can save *you* money! Write for Bulletin 1400A to: PANGBORN CORPORATION, 2400 Pangborn Blvd., Hagerstown, Md.

Pangborn

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control equipment

BLAST CLEANS CHEAPER with the right equipment for every job

For more details circle NED-234 G3 on enclosed inquiry slip

In the silence of the night

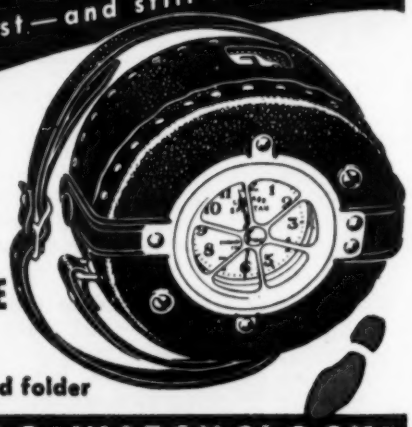
the watchman makes *his* rounds while the hands on his CHICAGO Watchclock make *their* rounds.

In the morning, there is a permanent dial-record of exactly where the watchman was during each hour...in the silence of the night.

The tamperproof CHICAGO Watchclock system is approved by both THE UNDERWRITERS' LABORATORIES and by THE FACTORY MUTUAL'S LABORATORIES. It gives extra protection against fire, theft and sabotage.

CHICAGO WATCHCLOCK

The first—and still the first



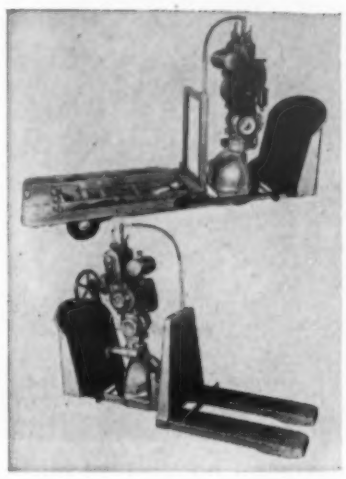
Quickly pays for itself... REDUCES INSURANCE RATES

Send for illustrated folder

CHICAGO WATCHCLOCK
DIV. GREAT LAKES INDUSTRIES, INC.
1522 S. WABASH AVE., CHICAGO 5, ILL.
OFFICES IN PRINCIPAL CITIES

For more details circle NED-235 G3 on enclosed inquiry slip

HYDRAULIC POWER LIFT available on skid and pallet trucks



Replacing a hand hydraulic lift and reducing employee fatigue, the automatic hydraulic power lift is now available on all Truck-Man skid and pallet low-lift trucks. Hydraulic pump is installed on the engine and transmits a pressure up to 1000 psi through a 360-degree swivel elbow fitting and flexible tube to the cylinder. Driving and steering power turret can be rotated 360 degrees. Model DFP (bottom) is the pallet toter model, while the DHP (top) is the skid lift model, with 4500-lb capacity. Made by **Knickerbocker Co.**, Truck-Man Div., 627 Liberty St., Jackson, Mich.

For more details circle NED-236 G3 on enclosed inquiry slip

BUCKET ELEVATOR for loading feeder storage hoppers

Compact dimensions of model BES-77 bucket elevator for loading feeder storage hoppers allow its use in bulk material feeder rooms where floor space is restricted. Malleable iron buckets are housed in 9 x 24-in. steel casing. Boot, head and center section are fabricated of 12-gage mild steel and can be constructed to overall height of 25 ft. Each section has flanged ends and dust-tight joints. Driven from 1½-hp gearhead motor, feed buckets travel on pintle chain from boot to head at maximum delivery of 200 cu ft per hour. Dust collectors, bin level switches and other accessories are available. Made by **Omega Machine Co.**, 425 Harris Ave., Providence 1, R. I.

For more details circle NED-237 G3 on enclosed inquiry slip

Welding Electrodes

Alloy Rods Co.—20-page bulletin AR53-16 has just been issued on Arcaloy stainless steel electrodes. Two basic types are described, lime coating for all-position welding with dc reverse polarity, and ac-dc for welding of chrome-nickel with all types of ac or dc welding equipment. Also included are descriptions of the regular and special electrode analyses, weld metal properties, welding procedures and other technical data.

For more details circle NED-238 G3 on enclosed inquiry slip

New MANCO

HAND-OPERATED HYDRAULIC CUTTER

A brand new development in hand-operated cutting tools. Tremendous hydraulic cutting force produced by easy hand-pump action.

Provides 10 Tons Thrust

The powerful, yet compact and relatively lightweight Manco Hydraulic Cutter bites right through ½" reinforcing rod, chain, bolts, etc. Unique dual ratio pump affords rapid traverse for speed of cut. Twist of handle grip provides automatic blade retraction. Blades easily removed for sharpening. Can be adapted for riveting, crimping, punching, etc. Weight 15 lbs. Length 24".

Model 200-A

Write for complete information

Dept. NED-7

MANCO MFG. CO.
BRADLEY, ILLINOIS

For more details circle NED-239 G3 on enclosed inquiry slip

Cut Lubrication Time up to 35%

ALEMITE LUBRIKARTS

Speed Plant-Wide Lubrication

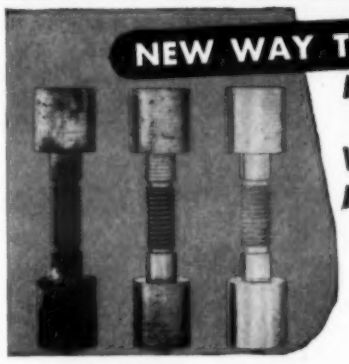
An Alemite Lubrikart is a complete lubrication department on wheels. Highly maneuverable—travels 26" aisle—turns in 49" circle. Eliminates waste and contamination, prevents slipshod lubrication. Choice of electric, air or hand operation. Wide choice of equipment makes possible "customized" Lubrikarts to fit specific needs.

- High Pressure Lubrication
- Fills Hydraulic Systems
- Services Oil Reservoirs
- Lubricates Gear Housings
- Refills Oil Cans
- Loads Grease Guns

Send Today for FREE illustrated folders on Alemite Lubrikarts. Write Alemite, Dept. NED-73, 1850 Diversey Parkway, Chicago 14, Ill.

ALEMITE A PRODUCT OF SW STEWART WARNER

For more details circle NED-240 G3 on enclosed inquiry slip



NEW WAY TO STOP RUST

Easily! Quickly! Without Slushing

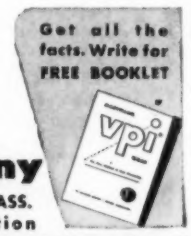
MARVELLUM VPI WRAP

Paper coated with a Volatile Corrosion Inhibitor

Without VPI — With VPI

Look at these steel samples — they tell the story. After 3 years of unsheltered storage outdoors in an industrial marine atmosphere, only the VPI wrapped sample on the right is still bright and clean. The untreated sample on the left was wrapped in plain kraft, the middle one treated with a good rust-preventive oil and wrapped in Grade A barrier material. All were overwrapped with kraft-asphalt paper. *Your* steel or aluminum parts can be equally well protected from corrosion. VPI, developed for government use during the war, is now available to everyone. Economical, easy to use, VPI can save you time and money.

Marvellum VPI is available in sheets, envelopes or special containers. Marvellum has complete facilities under one roof for designing, producing and coating VPI Wraps. Also makers of a wide range of other barrier materials to meet your needs for product protection. Distributors in all major cities.



The Marvellum Company
32 APPLETON STREET HOLYOKE, MASS.
First and Foremost in VPI Protection

For more details circle NED-241 G3 on enclosed inquiry slip

MERRILL MATERIALS HANDLING DEVICES

3-M-2

MERRILL BROTHERS
56-13 ARNOLD AVENUE MASPETH, N. Y.

For more details circle NED-242 G3 on enclosed inquiry slip

Don't ruin a valuable piece of equipment merely because some part is rusted tight. Apply *KROIL*, the amazing new chemical lubricant that creeps into millionth inch spaces (proved by laboratory tests), **dissolves rust, supplies necessary lubrication and . . .**

Loosens Frozen Parts

11,000 of America's leading plants can't be wrong. They have used KROIL for ten years and depend on it to save expensive labor and valuable parts. They say: "Kroil loosened bushings after a 12-ton press had failed". . ."on repairing heat treat trolleys formerly destroyed every nut. Now KROIL saves them all, and time, too."

You too can get these results. Try KROIL on money-back basis.

Gallon, $3.85; with Kroiler squirt gun, $4.95, f. o. b. factory.

Ask for GENIUS AT WORK—a free publication full of ideas for maintenance men.

KANO LABS. 1074 S. Thompson Lane Nashville 11, Tenn.

For more details circle **NED-243 G3** on enclosed inquiry slip

18 WAYS TO SAVE TIME & MONEY!

with the Mead Industrial Burring Machine

Wood-Plastic-Metal

New circular explains, illustrates 18 ways in which the Mead Industrial Burring Machine saves time and money—also contains Special Grit Guide. Every industrial plant needs this "Jack-Of-All-Trades" machine. Your burring can be done in "free time"—install these machines by every machine tool which leaves burrs. Grinds, finishes both outside and inside cut-out openings. Immediate delivery in most cases. Write for the informative Money-Saving circular now.

MEAD SPECIALTIES COMPANY
4114 NO. KNOX AVE. DEPT. NA-73 CHICAGO 41, ILL.

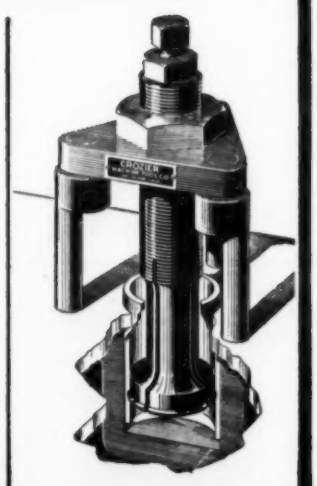
For more details circle **NED-244 G3** on enclosed inquiry slip

NEW EXTRACTOR

removes bushings from blind holes ...cuts time 75 per cent

The entirely new method of extracting bushings, bearings, sleeves, liners, etc. Eliminates necessity for machining, minimizes the hazard of injury to casings or excessive dismantling of equipment, handles holes from ½ to 2"—over 5 tons have been extracted with unit. Eliminates as much as 75 per cent of labor and time, slashes inventory.

For complete information write Department NED-7



CROZIER *Machine Tool Co.*
684 NO. PRAIRIE AVENUE, HAWTHORNE, CALIFORNIA

For more details circle **NED-245 G3** on enclosed inquiry slip

FLOOR MACHINE
has brush spread of 12½ in.

Equipped with a ⅓-hp heavy duty vertical motor, the model K floor machine has a brush spread of 12½ in. and a brush speed of 210 rpm. Attachments are available to scrub, wax, polish, buff and steel-wool floors of all kinds. Machine has a steel base with baked-on enamel finish and is fitted with a bumper of nonmarking grey plastic. Handle is of steel tubing, fitted with rubber grips and a cast aluminum switch box. A 30-ft nonmarking grey rubber cord is furnished. Made by **Hild Floor Machine Co.,** Dept. NE, 740 W. Washington Blvd., Chicago 6, Ill.

For more details circle **NED-246 G3** on enclosed inquiry slip

POST HOLE DIGGER
digs 6-ft hole in 1 minute

A 6-in. hole up to 6 ft deep can be dug in 1 minute by model 636 S Super Hole-A-Minit digger which operates with any air drill equipped with standard Jacobs chuck or any ½-in. or larger electric drill rated at 500 rpm or less. When used with shaft extension, unit will dig holes beyond the 6-ft depth. Tool is rustproof, engineered for heavy-duty performance and digs at any angle. It chews up softer shale and rides above large rocks without damage. Remote operation can be from 1.5-kw portable alternating or direct current generator. Made by **Eugene John Freeman & Co.,** Dept. 250, P. O. Box 2143, Van Nuys, Calif.

For more details circle **NED-247 G3** on enclosed inquiry slip

G-E Lamp Catalog

The most elaborate lamp catalog yet issued by G-E, latest 72-page book in full color replaces volume published in 1948. It shows and describes popular types of lamps, listing them by lighting service to which they are applicable. Much information about construction, operation and application of lamps is offered as well. Catalog is available for 70 cents from General Electric Co., Lamp Div., Dept. 166-NED, Nela Park, Cleveland 12, O.

For more details circle **NED-248 G3** on enclosed inquiry slip

***New* XL BOND**

FOR CARBIDE TOOL AND CUTTER GRINDING

"XL" is Chicago Wheel's exclusive new bond for silicon carbide vitrified grinding wheels, especially made for grinding carbide cutting tools. Ideal for rough and finish grinding . . . offhand or precision automatic. Supplied in most popular sizes and steel backs. Prompt delivery. Keep your production up . . . costs down, with "XL."

Write today for information—Dept. NED

CHICAGO WHEEL & *Mfg. Co.*
1101 West Monroe St., Chicago 7, Illinois
OFFICES IN PRINCIPAL INDUSTRIAL CENTERS

For more details circle **NED-249 G3** on enclosed inquiry slip

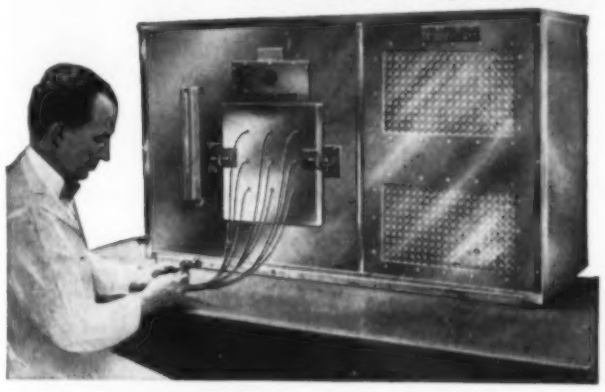
HIGH AND LOW TEMPERATURES

NEW BENCH-TYPE TEST UNIT

WEBBER
TRADE MARK REGISTERED
COMPLETE TEMPERATURE RANGE
TESTING UNITS

Combine high and low temperatures within the same cabinet with all controls self contained. Unit measures 50"x28"x20" with a testing chamber 12"x12"x12". Temperature range is from -80° F. to 185° F. Heat application is accomplished with reverse cycle refrigeration, which eliminates the hazards associated with open heating elements. A blower is provided for even distribution of temperatures and greater testing accuracy. Latch-type or hinge-type door optional. Accelerated pull-down to -80° in 30 minutes or less.

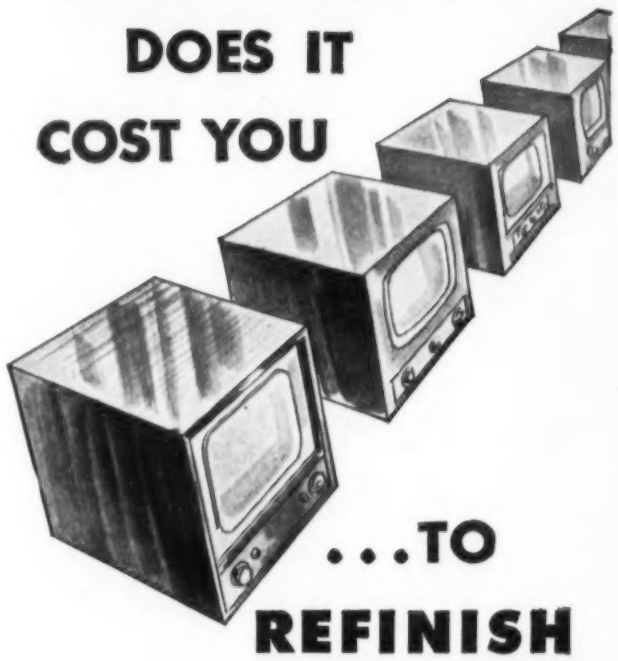
Write today for more complete information



INDUSTRIAL FREEZER DIVISION
WEBBER MANUFACTURING COMPANY, INC.
(Formerly Webber Appliance Co., Inc.)
2749 MADISON AVENUE • INDIANAPOLIS 3, INDIANA

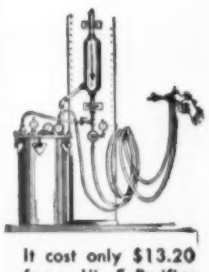
For more details circle **NED-250 G3** on enclosed inquiry slip

HOW MUCH DOES IT COST YOU



...TO REFINISH YOUR PRODUCT?

● Why let dirt and moisture in air lines ruin or lessen the finish of your product? A profit paying Hi-eF Purifier will save you hundreds of dollars by freeing air lines in spray painting equipment of all water and dirt that might impair your product finish. This not only assures you of a much better finish for your product but also reduces maintenance costs by keeping spray nozzles free from any entrainment. Once installed, a low cost Hi-eF Purifier will guard your products for life, as they have no moving parts. Ask your distributor about line type Hi-eF Purifier. Install one. See how they pay you a profit. Mail coupon for literature and prices.



It cost only $13.20 for a Hi-eF Purifier on this ¾" air line.

WATCHDOG OF STEAM, AIR • GAS • VAPOR • PIPELINES AND EQUIPMENT

ANDERSON Hi-eF PURIFIERS

THE V. D. ANDERSON COMPANY
1975 West 96th Street • Cleveland 2, Ohio

Please send literature and prices on small line type purifiers.

Name ..... Title .....
Address .....
Company .....
City ..... State .....

BY THE MAKERS OF SUPER-SILVERTOP STEAM TRAPS

For more details circle **NED-251 G3** on enclosed inquiry slip

Today every major U. S. jet engine manufacturer is a user of American Welding rings, bands, or components.

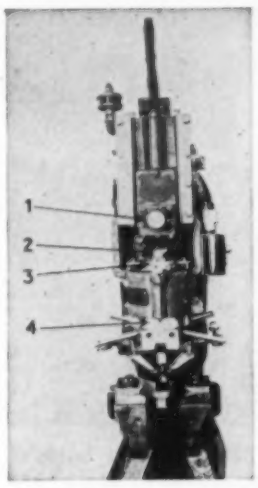
We do not know what jets, guided missiles or rockets you are working on, but we feel sure that our 34 years of welding experience can be helpful in getting your designs "off the blueprint—into the blue".

We can provide designing, engineering, metallurgical and machining facilities. If your requirements involve either fusion or resistance welding of ferrous or non-ferrous metals, we will be glad to have our Product Development Department look into your problem.

THE AMERICAN WELDING & MANUFACTURING CO.
170 DIETZ ROAD • WARREN, OHIO

For more details circle NED-252 G3 on enclosed inquiry slip

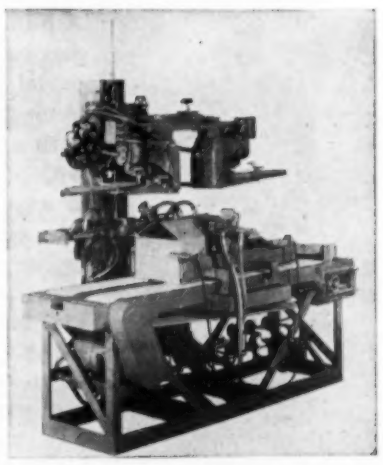
TURRET HEAD NIBBLER
head turns instead of work



Ease of cutting exact contours in sheet materials is afforded by rotating head of this Tabor-Gray turret head nibbler. Work remains in position while head is turned. Thus, shapes can be cut in sheets whose width is twice the machine depth in any direction and of any length. Machine will cut straight lines or can be controlled by templates. As indicated in illustration, lifting lock (1) disengages cutting tool and raises it for inside cuts. Tool steel ram (2) is hardened and ground, while (3) indicates tapered bushing adjusting nut. Turret (4) permits following any layout without turning the stock. Made by **Tabor Mfg. Co.**, 6220 Tacony St., Philadelphia 35, Pa.

For more details circle NED-254 G3 on enclosed inquiry slip

CARTON STAPLER
closes center-slotted containers



Designed to fit into existing conveyor systems, this fully automatic carton-stapling machine closes center-slotted corrugated or fiber cartons of the type used for packaging beer and foods. It has a built-in conveyor to receive unclosed and deliver closed packages to the main line. It is air operated, will staple from 800 to 1000 cartons an hour, and will handle packages from 5 to 11-in. high, 8 to 12-in. wide and 11 to 17½-in. long. Made by **International Staple & Machine Co.**, 802 Herrin St., Herrin, Ill.

For more details circle NED-255 G3 on enclosed inquiry slip

Sound Signal Guide Book

Benjamin Electric Mfg. Co.—Combination manual, data book and catalog of industrial sound signals provides information on selection of anything from one or two signals to a complete system. Coverage includes glossary of terms, quick-comparison guide for selecting signal equipment, suggested steps in choosing an installation and hints on compiling a coding signal call system. A complete line of equipment is fully described in the catalog section.

For more details circle NED-256 G3 on enclosed inquiry slip

standardize on standard

HALLOWELL
SOLID
STEEL COLLARS

Buy standardized, precision-made HALLOWELL Steel Collars from your distributor's stocks. You'll save time and money by picking up the telephone and placing your order. Deliveries are prompt.

42 stock sizes—for shafts from 3/16" to 3" diameter, inclusive—all positively positioned on the shafts by UNBRAKO Self-Locking Socket Set Screws, the screws that won't work loose.

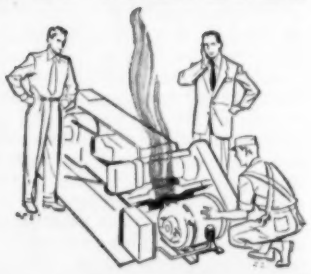
Write for literature, and the name and address of your nearest HALLOWELL industrial distributor. SPS, Jenkintown 24, Pa.

Our Fiftieth Year : A START FOR THE FUTURE
HALLOWELL POWER TRANSMISSION DIVISION
SPS
JENKINTOWN PENNSYLVANIA

For more details circle NED-258 G3 on enclosed inquiry slip

CUTLER-HAMMER ★★★
motor control features

Another
CUTLER-HAMMER
"First"...



Three-coil overload protection in standard motor control construction and enclosures

Now the universally desired and widely demanded *full* three-phase overload protection, so necessary to prevent single-phasing motor burnouts, is here as an optional feature in standard starter constructions and enclosures. *Complete* three-phase motor protection . . . without the high cost of special starter assemblies and the many problems of stocking, handling and installing such special starters in their cumbersome off-size cases. CUTLER-HAMMER, Inc., 1377 W. St. Paul Avenue, Milwaukee 1, Wisconsin.

and the 3 stars stand for 3 *NEW* standards in motor control

CUTLER-HAMMER
MOTOR CONTROL
C-H

For more details circle NED-253 G3 on enclosed inquiry slip

ATTENTION:
Plant Safety Engineers

Here's How *YOU* can Prevent Production Losses Caused by Dermatitis

. . . Reduce Medical Costs and Improve Industrial Relations

Dermatitis actually wastes *more* man hours and medical treatment dollars than the more sensational industrial "accidents".* Furthermore, dermatitis cases cause revulsion, not only among afflicted employees, but their co-workers as well.

You can prevent these distasteful situations by providing the *proper* protective garments and *insisting* that personnel in your plant always wear them when in contact with irritating substances.

Gloves are especially important in reducing dermatitis cases and your production managers will thank you for choosing the *right* gloves for each job. Comfortable fit, hand freedom and long wear pay off in employee good will, increased production and lowered operating costs.

PIONEER liquid-tight Stanzoil® gloves, made of oil and acid resistant non-allergic DuPont milled neoprene, are reducing hand dermatitis hazards in hundreds of plants all over the world. 32 safety styles, weights, size and colors . . . PIONEER catalog shows you *at a glance* how to choose the most efficient and economical glove for the job.

Don't risk costly time out — write for complete information today.

**Occupational Hazards, December, 1952*

Industrial Products Division
The PIONEER Rubber Co. 234 Tiffin Road Willard, Ohio
Quality Gloves for 35 Years

For more details circle NED-257 G3 on enclosed inquiry slip

CINCINNATI ALL-STEEL PRESS BRAKES
feature center line construction motorized ram adjustment with micrometer registers at each end, automatic lubrication weld free joints and other profitable features.

Write for Catalog B-4

THE CINCINNATI SHAPER CO.
CINCINNATI 25, OHIO, U.S.A. SHAPERS • SHEARS • BRAKES

For more details circle NED-259 G3 on enclosed inquiry slip

OUTDOOR SERVICE UNIT
. . . with wired-in receptacles

Here's a portable, fully protected outdoor service unit with wired-in receptacles for tools, pumps, floodlights and other equipment. Used for construction work and other outside installations which require temporary circuits, the "Receptacle-Type" Outdoor Service Unit employs HEINEMANN hydraulic-magnetic circuit breakers. Move it from job to job—the only connections needed are those directly to the line. Current capacity of the unit is unaffected by summer and winter temperature extremes. After tripping on short circuits or overloads, service can be restored immediately if the fault is corrected. No waiting is required.

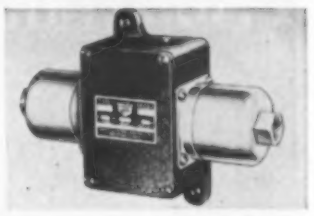
Housed in rugged, weatherproof enclosure, with plug-in receptacles at bottom for either or both 220 and 110 volts, AC. The unit is complete in itself—no other enclosure is needed.

WRITE FOR BULLETIN 2013

HEINEMANN ELECTRIC CO. • 106 Plum St. • Trenton 2 • N. J.

For more details circle NED-260 G3 on enclosed inquiry slip

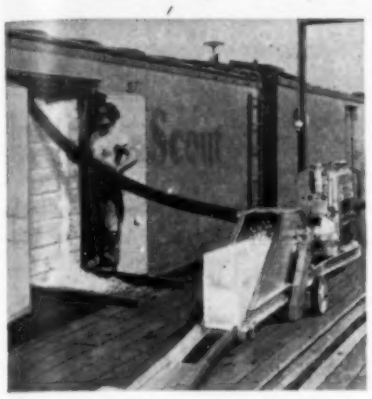
PRESSURE-VACUUM CONTROL
made with three switch actions



Improved type J6K sensitive differential pressure-vacuum control has weatherproof and shock resistant features which make it suitable for exposed or heavy duty applications. It can be made watertight when specified. Switch controls system differential up to 90 psi on applications requiring a switch differential between 4 in. of water and 15 psi. Three switch actions are available: normally-open which closes on rising pressure or decreasing vacuum, normally-closed which opens on rising pressure or decreasing vacuum, and double-throw with no neutral position. Made by **United Electric Controls Co.**, Dept. ND, 85 School St., Watertown 72, Mass.

▲ For more details circle **NED-261 G3** on enclosed inquiry slip ▲

ICE CRUSHER-SLINGER
stationary and portable types



Series 500 heavy duty ice crusher-slinger is capable of handling five 300-lb cakes of ice per minute or 45 tons per hour for icing of such equipment as refrigerator cars and long-haul trucks. Stationary and rubber-tired portable types are offered with either gasoline engine or electric motor. Crushed snow-ice is forced through a flexible hose over and between tiers of containers. Machines have a hinged loading ramp and feeder chain conveyor for carrying cakes of ice from dock to crusher. The slinger spout is on a swivel for directing to either side of the machine. Made by **Link-Belt Co.**, Dept. NED, 307 N. Michigan Ave., Chicago 1, Ill.

▲ For more details circle **NED-262 G3** on enclosed inquiry slip ▲

WATER FEED ATTACHMENT
for rotary concrete drill

Water feed attachment designed for rotary Koncrete Kore drills of 1½ to 8-in. diameter increases drilling speeds up to 300 per cent and prolongs cutting life of drill. Attachment which fits standard garden hose connections has smooth swivel action. Water flowing through drill's core removes cuttings, and lubricates and cools drill at the same time. Water feed includes shut-off valve to control flow. Drills can be used in ordinary electric and air drill motors with ¾-in. chuck or larger, and with No. 3, 4 and 5 Morse tapers. Made by **Tilden Tool Mfg. Co.**, Dept. NED, 209 Los Molinos, San Clemente, Calif.

▲ For more details circle **NED-263 G3** on enclosed inquiry slip ▲

PORTABLE JIG SAW
lightweight electric tool also does saber and keyhole saw work

Besides doing the work of a jig saw, this portable Utility electric jig saw will perform saber, keyhole and most band saw operations. It can be held and guided with one hand and is supplied with five different blade types for cutting hard and soft wood, ferrous and nonferrous metals, rubber, plastics, and insulating materials.

Saw can also be mounted in an inverted position on an accessory table for bench work. Other accessories include an attachment for making wood joints, and a circle cutting attachment for making 2 to 13-in. diameter circular pieces. Saw is often able to make pocket cuts without an entrance hole. Rated capacity is ½-in. in soft wood and ⅜ in. in hard wood. For intermittent operation these figures become 1½ and 1 in., respectively. It operates on standard 110-v electric current. Made by **Black & Decker Mfg. Co.**, 762 E. Pennsylvania Ave., Towson 4, Md.

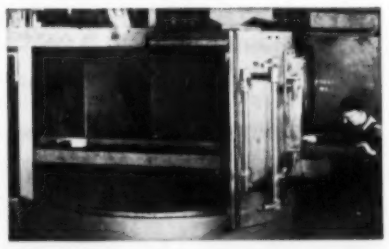
▲ For more details circle **NED-264 G3** on enclosed inquiry slip ▲

INDUSTRIAL FANS
direct drive, medium pressure type

Air deliveries ranging from 5400 to 36,000 cfm are supplied by line of direct drive industrial fans with blade diameters from 24 to 48 in. A square steel fan frame forms the mounting panel and the air inlet is streamlined for efficiency. "Gull wing" design of the individually-mounted aluminum blade fan wheel contributes to stiffness and strength, and provides uniform pressure-velocity over the entire discharge area surface. Totally enclosed heavy duty motors are suitable for operation in atmosphere containing moderate amounts of moisture, oil, dust or weak chemical fumes. Made by **Robbins & Myers, Inc.**, Fan Div., Dept. N, 387 S. Front St., Memphis, Tenn.

▲ For more details circle **NED-265 G3** on enclosed inquiry slip ▲

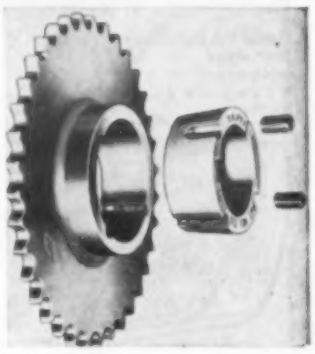
ACCESS DOOR
for rotary blasting table



Making possible the blast cleaning of long sections on a small diameter table, an access door has been developed for the Pangborn LK Roto-blast machine. Flexible rubber curtains over the door opening prevent abrasive grit from escaping. Made by **Pangborn Corp.**, 140 Pangborn Blvd., Hagerstown, Md.

▲ For more details circle **NED-266 G3** on enclosed inquiry slip ▲

ROLLER CHAIN SPROCKETS
use interchangeable taper hubs



Line of roller chain and sprocket combinations is available from stock, minimizing inventory requirements in the individual plant. Roller chains are offered in American standard sizes. Taper Lock sprockets and bushings having multiple bore coverage are available for all except the small sizes where fixed finished bore sprockets in popular bores are supplied. Made by **Diamond Chain Co.**, 457 Kentucky Ave., Indianapolis 7, Ind.

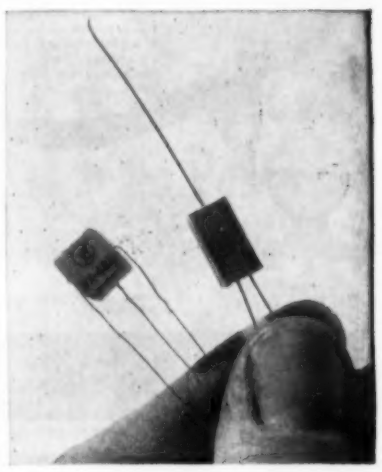
▲ For more details circle **NED-267 G3** on enclosed inquiry slip ▲

COOLANT CLARIFIER
removes chips, abrasives and dirt

With over 16,000 sq in. of filtering area, the Houdaille type J coolant clarifier removes all chips, abrasives, dirt and other solid contaminants from both water based and mineral oil coolants. Use can be with individual machine tools or small central systems. Coolant is clarified by passing it through multiple self-cleaning filtering tubes suspended vertically within the unit. Tubes are washed free of contaminants during a backwash period, thus requiring no manual cleaning. Operation can be continuous or intermittent. Several models of varying capacities are offered, made by **Honan-Crane Corp.**, 668 Wabash Ave., Lebanon, Ind.

▲ For more details circle **NED-268 G3** on enclosed inquiry slip ▲

TRANSISTORS
have leads for wired-in installation



Typical operating characteristics of type WX-3347 point-contact transistor (right) when used as grounded-base amplifier under small signal conditions are collector current, 2 to 3 ma; power gain, 18 decibels; and cutoff frequency, 2 mc. The WX-4813 p-n-p junction type (at left), when used similarly, is rated 2 to 3 ma, collector current; 18 db, power gain; and 2 mc, cutoff frequency. Transistors are for developmental use in amplifier, oscillator and switching circuits and are available in sample lots from **Westinghouse Electric Corp.**, Electronic Tube Div., Dept. T-194, Box 284, Elmira, N. Y.

▲ For more details circle **NED-269 G3** on enclosed inquiry slip ▲

DO YOU KNOW? Printed electronic and electrical circuit components are now available commercially. Offered are six 40-megacycle IF transformers, coils and traps which are made by a special photo-etch process which permits mass-production of identical circuits from a single negative. Service is offered by Radio Corp. of America, RCA Victor Div., Tube Dept., Harrison, N. J.

DO YOU KNOW? What's electrostatic painting? The answer to this as well as the details of a new Ransburg No. 2 process for finishing all types of products are presented in 25-minute 16-mm color-sound motion picture which is offered for free showings to industrial groups. New process is all electric. No compressed air is required as paint is atomized by electrostatic force and is applied to products without overspray, runs or need for booth. To get film, write to Ransburg Electro-Coating Corp., 1204 Barth Ave., Indianapolis 7, Ind.

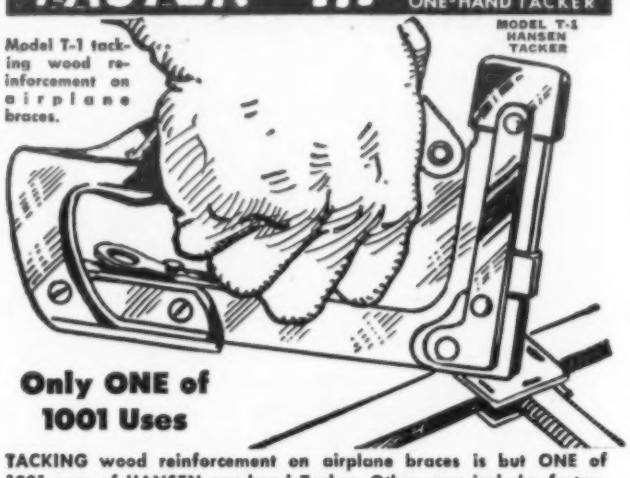
DO YOU KNOW? Pure silicon which may lead to more powerful and less bulky television, radio, electronic and electrical equipment is now being obtained by a new process. Development provides practically an unlimited source of this nonmetallic element for use in transistors, rectifiers and possibly other electronic parts. The present price tag is $430 per pound. This seems like a lot, but actually only 2 to 4 cents' worth is required for the average transistor. Present output is adequate to supply extensive research programs throughout the country. For full information, write to E. I. du Pont de Nemours & Co., Wilmington 98, Del.

DO YOU KNOW? There's a neatly packed kit of "Build-It-Yourself" rectifier parts which will enable the user to construct units to meet various voltage and amperage requirements in range of 2 to 12 amp at 110 to 220 v. Offered by Electronic Rectifier Co., P. O. Box 395, Rochester 2, N. Y.

DO YOU KNOW? Highly developed laboratories for independent research as well as the services of scientists, physicists and metallurgists are now available to industry for product development and improvement. Complete details of these facilities can be obtained from Cambridge Applied Research, Inc., 60 White St., Belmont 79, Mass.

DO YOU KNOW? Undergoing development is a new process to combat corrosion of steel. Employing a flame-spray hand gun for applying and fusing porcelain directly onto steel surfaces, method affords permanent protection against ravages of time, weather, chemicals and fumes to structures too large for factory treatment. Durable, color-stable and easily cleaned surfaces are produced so that maintenance costs are held to minimum. When perfected, process and guns will be offered by Seaporcel Metals, Inc., Sales Dept.-NED, 28-20 Borden Ave., Long Island City, N. Y.

YOU CAN DO IT FASTER with HANSEN ONE-HAND TACKER



Model T-1 tacking wood reinforcement on airplane braces.

Only ONE of 1001 Uses

TACKING wood reinforcement on airplane braces is but ONE of 1001 uses of HANSEN one-hand Tacker. Other uses include: fastening screens on TV sets, tacking radio and TV wires, refrigerator door gaskets, chair and auto-seat covers, insulation, etc.

(MODEL T-3-4 HANSEN TACKER)

Made in . . . 36 different models; for driving . . . 80 sizes of staples, the Hansen line offers you a model suited to your individual needs.

A.L.HANSEN MFG. CO.

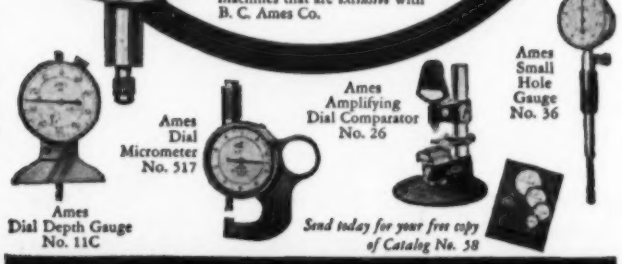
5164 RAVENSWOOD AVE., CHICAGO 40, ILL.

▲ For more details circle NED-270 G3 on enclosed inquiry slip ▲

AMES

...the preferred Dial Indicators

One of America's largest and most famous mass-producers recently chose Ames as preferred source of supply for indicator gauges. They did because the four sizes of Ames "Hundred Series" indicators fit every measuring requirement; they are *accurate, sensitive,* low in friction, yet are *rugged* and *tough* —give *more* on-the-job time. All Ames products embody latest design and highest-quality materials; they are manufactured by methods and machines that are *exclusive* with B. C. Ames Co.



Send today for your free copy of Catalog No. 58

Representatives in principal cities B. C. AMES CO. *34 Ames Street Waltham 54, Mass.*

Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

▲ For more details circle NED-271 G3 on enclosed inquiry slip ▲

THERE'S ROOM FOR THIS FOOT SAFETY IN ANY BUDGET

Economical is the word for A.W. SUPER-DIAMOND Safety Floor Plate. No other flooring gives you more foot safety, ease of maintenance, durability—at such low cost.

SUPER-DIAMOND gives real underfoot safety. Its exclusive, engineered raised-diamond pattern puts 40 anti-skid traction points in every footstep. SUPER-DIAMOND means low-cost maintenance. It's easy to clean with hose, mop or broom—and has no cracks or corners to catch and hold dirt. Finally, SUPER-DIAMOND lasts a lifetime. It withstands hard blows and heavy loads—resists heat, fire and most chemicals.

For safety with economy, learn the facts about A.W. SUPER-DIAMOND. The handy coupon brings you our newest booklet on floor safety.

Pattern shown ½ actual size

A.W. SUPER-DIAMOND
ROLLED STEEL FLOOR PLATE

ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

Please send me, without charge, your latest booklet SD-44 on SUPER-DIAMOND safety.

*Name*_____

*Company*_____

*Address*_____ *City*_____ *State*_____

▲ For more details circle NED-272 G3 on enclosed inquiry slip ▲

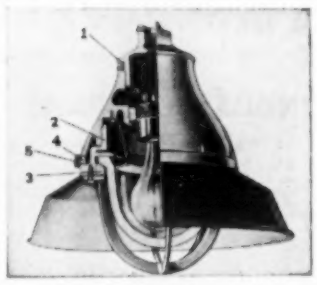
MINIATURE CONNECTORS
hermetically sealed round shell type

For use on miniature sealed and unsealed instrument switches, relays, transformers, amplifiers and other equipment, the U group of connectors is made in three and six-contact arrangements. Single and 12-contact types will be available. Pin and socket insert types are available, as are hermetically sealed units for solder applications and locknutted units for mechanical or solder applications. Contacts are for 5-amp current, with a minimum flashover of 1700-v dc. Shells are steel, finished in chromate dipped cadmium plate. The three-contact plug weighs 0.0088-lb, and is 1 1/16-in. long with a maximum diameter of 17/32-in. Made by **Cannon Electric Co.,** 418 West Ave. 33, Los Angeles 31, Calif.

▲ For more details circle NED-273 G3 on enclosed inquiry slip ▲

LIGHTING FIXTURE
unit is explosionproof

Lighter and better sealed than previous models, EV series explosionproof light fixture has 5 to 10 per cent greater lighting efficiency. Improvements in threaded connections at three points (1, 2, 3) prevent liquids, vapors or dirt from entering the bulb and receptacle areas. Notches in hood and globe holder (4) enable it to be loosened easily with a screw driver, even after prolonged exposure to corrosive vapors. Large knurled thumb screw (5) sets between these notches to lock holder in place. All types of reflectors are available on 100, 150, 200, 300 or 500-w fixtures. Breather, three-contact receptacle, frosted globe or half-shade are also offered. Made by **Crouse-Hinds Co.,** Dept. EPL, Syracuse 10, N. Y.



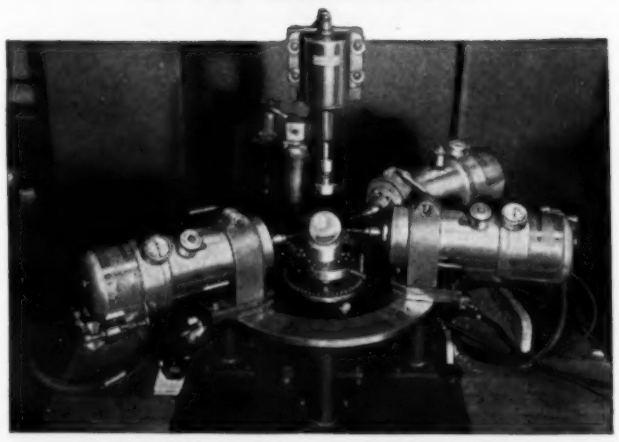
▲ For more details circle NED-274 G3 on enclosed inquiry slip ▲

Piezo-Electric Materials

Brush Electronics Co.—When you squeeze piezoelectric materials, they generate electricity; charge them electrically, and they change in dimension. This science of "Piezotronics," its functions and applications is described in 24-page brochure. Available supplementary brochure of 32 pages, "Piezotronic Technical Data," compares general properties of these materials, describes basic behavior, lists electronic circuit applications and considerations and gives electrical, mechanical and electro-mechanical properties and equivalent circuit data.

▲ For more details circle NED-275 G3 on enclosed inquiry slip ▲

DUMORE® DRILL HEADS
increase production 322% for toy manufacturer



...save $13.74 per thousand plastic balls drilled

Three Dumore Automatic Drill Heads mounted on a special fixture cut this manufacturer's production cost from $18.00 to $4.26 per thousand balls drilled.

Based on yearly output of 500,000 balls, this meant savings more than four times the original $1,600 cost of the Drill Heads and fixture. What's more, the Dumores' flexibility also helped reduce shelf inventory.

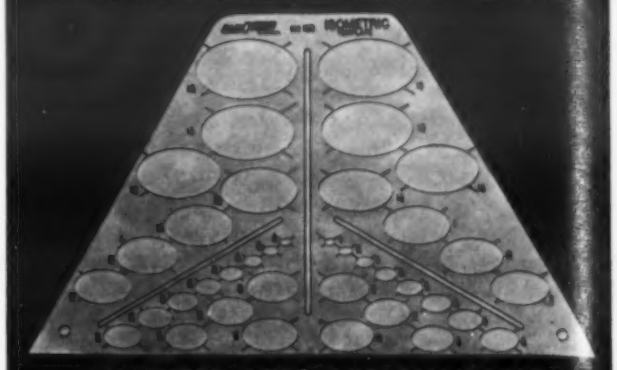
As a company spokesman put it, "Low initial cost plus flexibility and ease of operation make the DUMORE a 'natural' for multiple drilling operations."

Dumore success stories like this are the rule, not the exception. That's why the demand for Dumore Tools is booming. To get details on the few Dumore franchises still available write, wire or phone today.

THE DUMORE COMPANY
1333 Seventeenth Street • Racine, Wisconsin

▲ For more details circle NED-276 G3 on enclosed inquiry slip ▲

NO. 123 ISOMETRIC TEMPLATE



ALL THREE AXES ARE AVAILABLE WITHOUT TURNING THE TEMPLATE

.040 clear mathematical quality double cured plastic. All cut-outs are smooth-milled to give engraving-machine accuracy.

One of more than 35 Rapidesign time-saver templates—all of which are better made, more useful and lesser priced.

$3.00 AT YOUR LOCAL DEALER

CATALOG No. 50 MAILED ON REQUEST

RAPIDESIGN INC.
BOX 592 GLENDALE CALIF.

▲ For more details circle NED-277 G3 on enclosed inquiry slip ▲

Cut costs 40% with ALCOA UTILITUBE

36,000 feet of ALCOA Aluminum Coiled Tube serves air, dried by Alcoa *Activated** Alumina, to catalytic cracking unit at the Anderson-Prichard Oil Corporation, Arkansas City, Kansas. Partially exposed to hydrogen sulfide, tubing shows no corrosion, has required no maintenance since installation in September, 1952.

ALCOA UTILITUBE* is the lowest cost corrosion-resistant tube you can buy—up to 40 per cent less than other corrosion-resistant metals. It gives you 3 times more feet per pound. It is easier to form, flare and bend than annealed copper. It will not gum, sludge or discolor the fluids it carries.

ALCOA UTILITUBE comes in standard 50 and 100 foot lengths and in economical, long lengths up to 1,000 feet in some sizes.

ALCOA UTILITUBE is designed to handle fuel and lubricants in engines, air in instrument systems, fluids in hydraulic systems, cutting compounds in machine tools, etc. For complete information, write for the new booklet: "Alcoa Utilitube."

ALUMINUM COMPANY OF AMERICA
1002-G Alcoa Building, Pittsburgh 19, Pa.

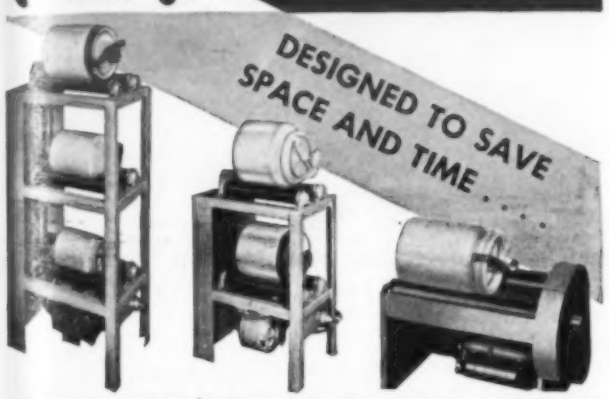
*Registered Trademark, Aluminum Co. of America

Alcoa Aluminum

ALUMINUM COMPANY OF AMERICA

▲ For more details circle NED-278 G3 on enclosed inquiry slip ▲

New! JAR MILLS



Here's a "unitized" line of "roller-type" jar mills especially designed for the busy, crowded laboratory. They are tiered to occupy a minimum of space. They feature a patented roller design that keeps jars centered — permits faster operation. The operator simply sets the jar on the rollers and starts the mill.

These mills are sturdily built with welded steel frames, heavy-duty oilite bearings, extra powerful drives. They are available in sizes to handle 1 to 12 jars of 1 pint to 3 gallon capacity. Laterally adjustable rollers permit rolling any round container from 2½"-13" dia. Variable speed drive optional on larger models.

Write for details, today!

U. S. STONEWARE CO.
PROCESS EQUIPMENT DIVISION, AKRON 9, OHIO

For more details circle **NED-279 G3** on enclosed inquiry slip

Protects AIR TOOLS AND EQUIPMENT

against rust, scale and condensation in the air line ...provides constant lubrication

The Keller Lubricator-Filter operates automatically when air tools or equipment are in operation. Filter removes moisture as well as solids—easily cleaned by opening drain cock at bottom. Oil feeds from the lubricator through an upright wick—no flooding or waste when tools are not in use.

Transparent bowls show when filter needs draining, or when light spindle oil should be added to lubricator. Write for descriptive Bulletin #65-5.

Send for **illustrated descriptive bulletin and detailed information**

Keller Tool Company
GRAND HAVEN, MICHIGAN

For more details circle **NED-280 G3** on enclosed inquiry slip

HOW YOU CAN *hear better* TO TELEPHONE

Loudness of Noise Reduced 50%* Inside a

BURGESS-MANNING *Acousti-Booth*

- Thick walls of sound absorbing material, patented design, and craftsmanlike construction reduce the loudness of noise by 50%*...leaving a zone of quiet for ease of telephoning.
- Doorless construction makes for a light, airy, well ventilated booth ...easy to keep clean... low maintenance.
- Easy to move...Suited to any noisy location...Wall and floor models...Handsome in appearance.

Write for Bulletin A-107 — Model 211 Floor Model

** Based on studies by a prominent research organization.*

BURGESS-MANNING COMPANY
Architectural Products Division
5970-C Northwest Highway, Chicago 31, Illinois

For more details circle **NED-281 G3** on enclosed inquiry slip

EXPLOSIONPROOF TELEPHONE
is sound-powered fully sealed type

Sheathed in two accurately machined and flame-tight aluminum housings, this explosionproof telephone is sound-powered and is useful wherever an electrical spark might prove dangerous. It provides for communication with other sound powered telephones within a range of 30 miles. The call signal is a magneto actuated howler, loud enough to be heard in a boiler factory. A number of stations may be selected. Made by **Crouse-Hinds Co.**, Dept. EPL, Syracuse 10, N. Y.

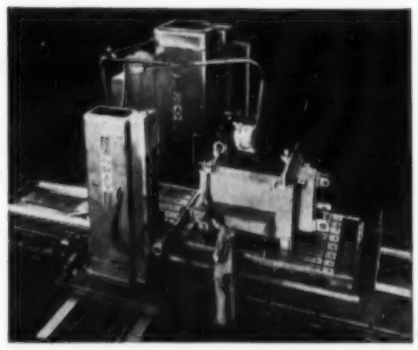
For more details circle **NED-282 G3** on enclosed inquiry slip

SWIVEL CASTERS
3 and 4-in. sizes, 1000 and 1200-lb

Heavy duty 21 series ball bearing swivel casters have top plates, fork, wheel and king bolt nut of malleable iron for strength and endurance. The wheels are equipped with Oilite bearings, and the king bolt is locked in place by a cotter pin. Units are available in 3 and 4-in. sizes with capacities of 1000 and 1200-lb. Made by **Buffalo Caster & Wheel Corp.**, Dept. 101, Hamilton, Ill.

For more details circle **NED-283 G3** on enclosed inquiry slip

BORING MACHINE
6-in. spindle planer type



Precision indexing to less than 0.00025-in. is routine on this 6-in. planer type horizontal boring machine which will accommodate a work piece 12-ft long, 6-ft wide and 6-ft high. The extreme accuracy of the guide surfaces is afforded by a nonmetallic way, which eliminates metal-to-metal contact and concurrent scoring. In one plant it is being used in the toolroom to make master gages which in turn are used as the basis for aircraft production gages. Made by **G. A. Gray Co.**, Dept. 9, 3611 Woodburn Ave., Cincinnati 7, O.

For more details circle **NED-284 G3** on enclosed inquiry slip

...for Greater SAFETY / COMFORT / STYLE / DURABILITY — *Specify* **CESCO** *Safety Goggles*

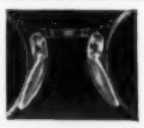
made in **3 EYE SIZES BRIDGE SIZES** TO FIT EVERY WORKER AND EVERY WORKING CONDITION

You can rely on **CESCO** *Safety Goggles for:*

- ★ Impact resistance
- ★ Shock-proof durable construction
- ★ Correct fit
- ★ Good looking, modern design
- ★ Simple lens replacement

for Information about CESCO's complete line of Safety Goggles see your CESCO distributor or write . . .

EXCLUSIVE COMFORT-BRIDGE Distributes the weight evenly across the nose for "floating" fit. Seals nose area for full protection.



No. 380 Wire-Mesh Side Shield Comfort-Bridge Goggles.

No. 371 Sturdy, non-flammable plastic frame Goggles.

CHICAGO EYE SHIELD CO. 2322 Warren Boulevard, Chicago 12, Ill.

CESCO FOR SAFETY

OFFICES IN: Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Detroit, East Orange, Houston, Kansas City, Knoxville, Little Rock, Los Angeles, Mexico City, D.F., Milwaukee, Montreal, Philadelphia, Pittsburgh, Salt Lake City, San Francisco, Spokane, St. Louis, St. Paul, Toledo, Tulsa

For more details circle **NED-285 G3** on enclosed inquiry slip

don't take our word for it!

Just try a **GRIPPER WOVEN WIRE SLING** in your own plant and see if you don't agree it's the most amazingly versatile MATERIALS HANDLING TOOL yet to hit the market!

Use your Gripper sling for—

LIFTING compact, heavy loads to and from delivery vehicles

MOVING long members into and out of storage racks

POSITIONING parts for machining or finishing

. . . or for any other routine or special sling problem . . . anywhere in the plant.

Gripper slings won't snarl or tangle, won't cut operator's hands with broken wires. They'll lift any load with ease and safety. Each sling can be used in basket or choke hitch.

WANT TO KNOW MORE? See your mill supply, safety equipment or materials handling dealer . . . or write for illustrated literature and data.

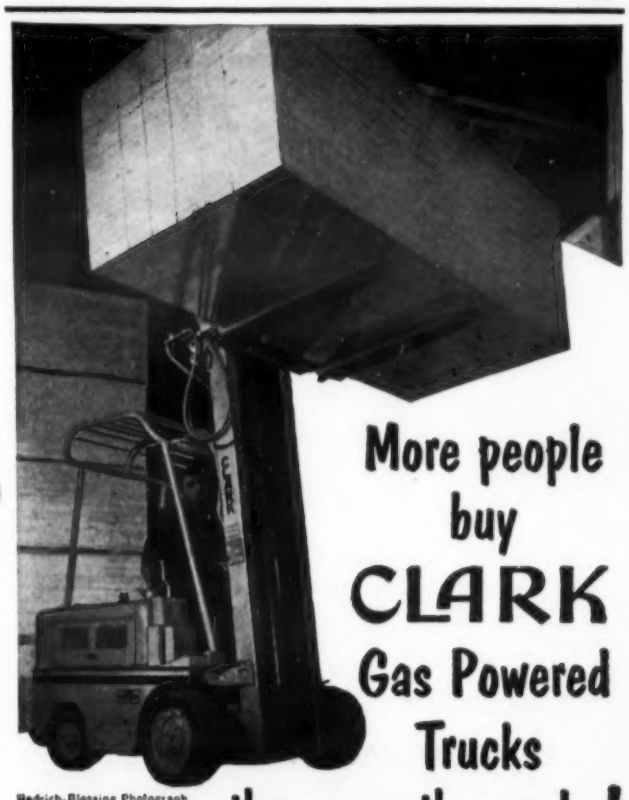
The Cambridge Wire Cloth Co.

WIRE CLOTH | METAL CONVEYOR BELTS | SPECIAL METAL FABRICATIONS

Department R
Cambridge 7, Maryland

DISTRIBUTORS—Write for open territory data!

For more details circle **NED-286 G3** on enclosed inquiry slip



Redrich-Blessing Photograph, courtesy of the EDWARD HINES LUMBER CO.

More people buy CLARK Gas Powered Trucks than any other make!

THERE ARE A LOT OF GOOD TRUCKS on the market, and a lot of good arguments for each. But this fact remains: *more people buy CLARK gas powered trucks than any other make.* Since we produce *all* power types . . . gas, electric, diesel and L.P. gas . . . we feel we're in a good position to explain why:

CLARK Horsepower Is Capacity-Rated To Your Requirements—Why pay for excess horsepower that you'll never use? CLARK gives you five engines, rated according to truck capacity. You get plenty of power for the job, without a lot of gas-consuming excess. When you buy a CLARK in the size that's right for you, you get the proper horsepower, too.

CLARK Flexibility Meets Any Work Condition — A wide range of speeds and a constant source of power enables your gas powered CLARK to handle any work condition. Flexibility means 'round-the-clock performance of normal operations, with a built-in reserve of power for peak loads and emergencies. And for long hauls, you can't beat the speed and economy of the gas powered CLARK. . . . . .

No matter what your handling requirements are—there's a CLARK machine to do the job. Electric or gas powered fork trucks, POWRWORKER hand trucks, industrial towing tractors—they all give you quality-value for your money. That's why industry buys more CLARKS than any other make of truck. When you're in the market for materials-handling equipment, talk to your local CLARK dealer first. Most people do!

CLARK ELECTRIC, GAS, DIESEL, L.P. GAS **FORK TRUCKS**
AND POWERED HAND TRUCKS · INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIVISION • CLARK EQUIPMENT COMPANY • BATTLE CREEK 21, MICHIGAN

Please send: ☐ Condensed Catalog ☐ Have Representative Call ☐ Driver Training Movie

Name_____
Firm Name_____
Street_____
City_____ Zone____ State____

1903 CLARK EQUIPMENT

AUTHORIZED CLARK INDUSTRIAL TRUCK SALES AND SERVICE STATIONS IN LEADING LOCATIONS

For more details circle **NED-287 G3** on enclosed inquiry slip

Is Iron Contamination a Problem?

PURIFY
your product with the
FRANTZ
FERRO FILTER

MAGNETIC SEPARATOR

The trouble-saving, money-saving answer to your iron contamination problem is the FRANTZ FERROFILTER. It handles liquid suspensions in all viscosities, extracting the most minute magnetic particles. Available in the Electromagnetic Gravity type (as shown), Pipeline and Underfeed types. Also Dry FERROFILTERS for powdered and granular materials; and Permanent Magnet FERROFILTERS for use on coolant and lubricating oil lines of machine tools and other plant equipment.

Send for BULLETIN 56-E

S. G. FRANTZ CO., Inc.
P. O. Box 1138 Trenton 6, N. J.

TRIAL OFFER: All models available on liberal rental plan. Write for details.

▲ For more details circle NED-288 G3 on enclosed inquiry slip ▲

PRICES SLASHED
UP TO **40%** ON

New LABELON
PRINTED FLATBACK TAPE

TRUE WHITE
PRECISION PRINTED
SELF-STICKING • ADHERES TIGHTLY
STRIPS OFF CLEANLY

SEARS ROEBUCK AND CO. 4414 10 PIECE SOCKET SET
TO OPEN LIFT TAPE HERE → TO CLOSE BAR, RESTICK TAPE

LABELON Printed FLATBACK
The new, low-cost tape for
- SEALING
- HOLDING
- BUNDLING
- MASKING
- INSTRUCTING
- IDENTIFYING
- WARNING
- INSPECTING

Choice of Widths, Lengths, Message

LABELON'S new printed, pressure-sensitive Flatback Tape looks better, sticks better, and COSTS UP TO 40% LESS! Cleaner TRUE WHITE surface. Can be written on with pen or pencil. Wide variety of widths and roll lengths, with your message, design, trademark, symbol, etc. printed in choice of colors.

Write today for prices and FREE SAMPLES
Dept. PR-N

LABELON TAPE CO., Inc.
450 Atlantic Ave., Rochester 9, N.Y.

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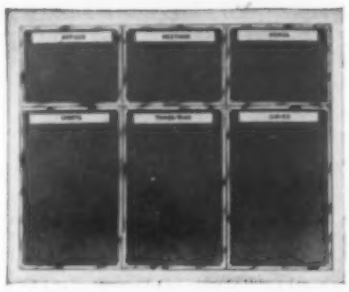
BULLETIN BOARDS
with self-sealing surfaces



Designed to hang vertically or horizontally, these 18 x 24-in. or 24 x 36-in. bulletin boards have green self-sealing surfaces and flush frames of anodized aluminum. They can be hung singly or in multiple units for display of notices, charts, curves and memoranda. Distributed by **Burrell Corp.**, 2219 Fifth Ave., Pittsburgh 19, Pa.

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VACUUM SWEEPER
mobile unit sucks up paper litter

Originally designed to suck up leaves, cut them up and return them to the ground or bag them as mulch, the Mulch-Vac Sweeper has been adapted to the sweeping up of paper litter from plant grounds, parking lots and other outdoor areas. Debris is picked up from a 3-ft wide strip, cut up and bagged for easy disposal by the 6-hp self-propelled unit. Made by **Atwater-Strong Co.**, Dept. N, Atwater, O.

▲ For more details circle NED-291 G3 on enclosed inquiry slip ▲

TORQUE TESTER
uses any standard torque wrench

Made in models with capacities of 0-200 lb-in. and 0.150 lb-ft, this torque tester finds use in such applications as determining the ultimate strength of screws. The driving end of the spindle is threaded so that users can design drivers for special applications. A standard male square attachment is included with each fixture and is fitted to the driving end of the spindle. This permits using standard sockets and socket screw drivers without alteration. A T-slot base makes possible the clamping of nests and holder to the fixture. A variety of other attachments is available. Made by **P. A. Sturtevant Co.**, 333 W. First Ave., Elmhurst, Ill.

▲ For more details circle NED-292 G3 on enclosed inquiry slip ▲

THE HAMILTON
PORTELVATOR®
(Portable Elevating Table)

MAKES IT *Easy* TO LIFT • LOWER LEVEL • TRANSPORT LOADS UP TO 5,000 lbs.

3 TABLE SURFACES
Can be worked at from **ALL 4 SIDES**

Slow or fast lift.

Self locking at any height.

4 POINT SUPPORT
(table can't tip)

Lift mechanism can be operated from either end.

Turns easily on anti-friction casters. Positive floor lock.

WELDED CONSTRUCTION

STYLE "A" (Illustrated)*
Max. Height 40" Min. Height 25" Length 33" Width 21" Weight 225 lbs.
Capacity 2,000 lbs. (plus safety factor)

*THREE STANDARD MODELS TO CHOOSE FROM

GET THE DETAILS • WRITE FOR BULLETIN P-5248

THE *Hamilton* TOOL COMPANY
901 HANOVER STREET • HAMILTON, OHIO • U • S • A

▲ For more details circle NED-293 G3 on enclosed inquiry slip ▲

FAMOUS "CHEM-BOARD"* **CONVOY** TOTE BOXES

*Chemically Hardened Corrugated Board

SOLD THROUGH LOCAL INDUSTRIAL DISTRIBUTORS

Cost—weigh—50% to 60% less than steel. A wide range of sizes in standard and custom made NESTING, STACKING, VERTICAL TOTE BOXES. Write for complete information, prices, name of distributor in your area.

CONVOY RECORD STORAGE FILES
Sold Only by YOUR LOCAL STATIONER
Used by most famous names in industry and businesses of all kinds. CONVOY "CHEM-BOARD" files for record storage made in letter, legal, and 12 other sizes. Stack to ceiling, mate together. Call your local stationer or write for name of stationer nearest to serve you.

CONVOY, INC.
Canton 6, Ohio
P. O. Station B, Box 216-N

▲ For more details circle NED-294 G3 on enclosed inquiry slip ▲

Shocking News About Super Davohm Resistors

Only Daven uses a stranded lead wire to connect the resistance wire to the solder terminal of the Super Davohm Precision Wire Wound Resistor.

Result: Super Davohm Resistors are more rugged, can withstand more vibration, rougher treatment and abnormal shocks because all stress, strain, heat or pressure, applied to the solder terminal, is absorbed by the heavy lead wire so that the resistor is not adversely affected in any way.

This is only one of the many exclusive features which make DAVEN the leader in the resistor field.

EXCELLENT DELIVERIES • Write for detailed bulletin

THE **DAVEN** CO. 199 Central Avenue Newark 4, N. J.

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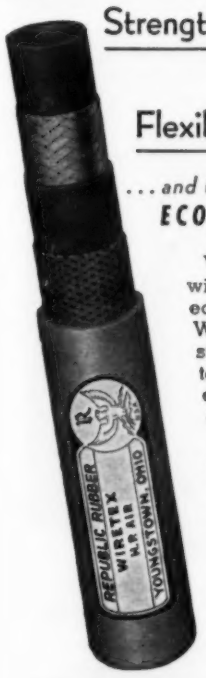
Republic WIRETEX **AIR HOSE**

Strength of Steel PLUS Flexibility of Rubber



. . . and there's a NEW ***ECONOMY LENGTH***

WIRETEX, combining the strength of steel with the flexibility of rubber, brings you economical hose performance. Republic WIRETEX Air Hose easily handles air pressures up to 2,000 psi — and is ideally suited to work on less rigorous jobs, too, where extra service life and trouble-free performance is an asset.

Republic WIRETEX is NEW — a truly modern conductor internally reinforced with high tensile wire. It's easy to handle, unbelievably tough and long lasting. What's more, Republic WIRETEX is built in 60-foot **Economy Lengths.** You save money when you buy Republic WIRETEX; time and money when you use it! Get the facts today! Republic WIRETEX Hose is available in all standard (⅜" to 2" inclusive) sizes.

REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO
INDUSTRIAL RUBBER PRODUCTS

▲ For more details circle NED-296 G3 on enclosed inquiry slip ▲

The Simplest Way to

SOLVE SCALE PROBLEMS

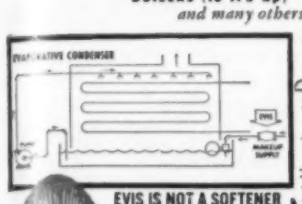
PATS. APPLIED FOR

Proven Uses Include
ALL PIPING SYSTEMS
CONDENSERS (most types)
COOLING TOWERS
ENGINES & COMPRESSORS
CUBE & FLAKE ICE MAKERS
BOILERS (to 175 wp)
and many others

"Yes, it's true!"

EVIS Water Conditioners are helping industry conquer its costly scale problems. Plant equipment is made to operate at higher efficiency. Maintenance costs are profitably lowered and shut-downs for periodic cleanups are often entirely eliminated. The EVIS units are Specially Processed to impart a continuous catalytic action on water-solids flowing through it. This action alters physical behavior sufficiently to inhibit most scale formations. Many thousands of EVIS Water Conditioners are now in service.

Write for further information or ask your Plumbing Supply, Air-Conditioning-Refrigeration or Industrial Equipment Jobber.

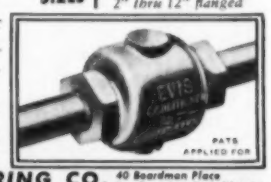


SIZES | ½" thru 2" screwed
2" thru 12" flanged

EVIS IS NOT A SOFTENER

Flow Line Type Available for Deep Well Pumps

SOLD ON 90-DAY MONEY-BACK GUARANTEE



PATS. APPLIED FOR

EVIS MANUFACTURING CO. 40 Boardman Place San Francisco 3, California

FRANCHISED REGIONAL DISTRIBUTORS

WHITTIER (Calif.) KEN-EVIS COMPANY 13146 E. Whittier, OX 9-2211
SAN BERNARDINO (Calif.) KNUPPS & WRIGHT 220 E. 40th St., SB 6-7838
SAN FRANCISCO NORTH-EVIS AGENCY 74 Dorman Ave., MI 7-3822
RENO WATER CONDITIONED SALES CORP. Western Amer. Life Bldg., 2-5639
SEATTLE EVIS-NORTHWEST 2417 E. Marginal Way, EL-6116
CHICAGO EVIS-GREAT LAKES COMPANY 203 N. Wabash Ave., ST 2-5948
OMAHA EVIS-MIDWEST, INC. 1504 Dodge St., JA-7044
DALLAS EVIS-SOUTHWEST CO. 6837 Chevy Chase, EM-0137
ATLANTA EVIS-SOUTHEAST CO. 735 Spring St., N.W., VE-0241
PHILADELPHIA EVIS-MIDEAST CO. 4 E. Richmond St., NE 4-0855
ALBANY (New York) EVIS-NORTHEAST CO. 57 Ripple Dr., UN 8-7921
EXCLUSIVE MARINE DIST. MORAN-EVIS CO. SAN FRANCISCO 420 Market St., DO 2-4565

▲ For more details circle **NED-297 G3** on enclosed inquiry slip ▲

Only THE NEW LEWIS "6" HAS ALL THESE FEATURES!

. . . FOR LOW COST INJECTION MOLDING

- 200-ton "Hydra-Lock" Clamp
- Fast Closing Toggle Mechanism
- Large Platens (14¾"x14¾" Between Rods)
- Quick Opening Die-Lock Device
- Compensating Feed Mechanism
- Safety Gate with Electrical Interlocks
- Adjustable Injection Cylinder Assembly
- Finger-Tip Controls

The LEWIS "6" permits molding of large projected area parts formerly impossible on machines of comparable size. (Shots of 6.8 ounces of polystyrene have been molded repeatedly at rate of 2½ per minute.) Its fast automatic molding cycle, newly developed "Hydra-Lock" clamping mechanism, durable construction and versatility permit this machine to do the work of considerably larger units at a fraction of their initial and normal operating costs. Safety interlocks on the gate as well as a 200-ton mold clamping pressure assure maximum safety for operator.

All outstanding features of the LEWIS "6" are standard equipment . . . *included in one remarkably low price!* For precision moldings and more profitable operation . . . specify the LEWIS "6".

Write for new 8-page Bulletin 102 for complete data.

another FIRST by LEWIS

1358-LW

THE LEWIS WELDING & ENGINEERING CORPORATION

14 Interstate Street • Bedford, Ohio

▲ For more details circle **NED-298 G3** on enclosed inquiry slip ▲

SPROCKET CHAIN
offers precision light power drive

For products requiring a simplified and light but accurate drive or control element such as motion picture projectors and electrical instruments, this ladder type chain is designed as an alternative to complicated gear trains. It is available in a range of sizes from 21 gage, 82 links per ft, to 16 gage, 34 links per ft, and is made in both regular and high tensile strengths. Made by **Hodell Chain Co.**, Dept. 20, 3924 Cooper Ave., Cleveland 3, O.

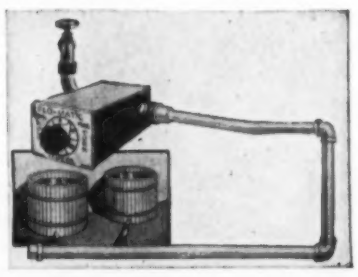
▲ For more details circle **NED-299 G3** on enclosed inquiry slip ▲

BRUSH ATTACHMENT
for push-type plant sweepers

Sweeping width of a 20-in. Plantman industrial sweeper can be increased 12 in. to 32 in. by addition of brush attachments on right and left sides. Their use makes it possible to sweep to the base of a wall in either direction. Addition of brushes provides better sweeping on rough or uneven floors and does not noticeably increase pushing effort required. Up to 20,000 sq ft per hour can be covered. Distributed by **Handling Devices Co.**, Room 490, 43-45 Pearl St., Brookline 46, Mass.

▲ For more details circle **NED-300 G3** on enclosed inquiry slip ▲

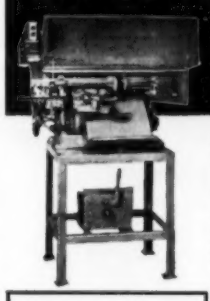
WATER CONTROL VALVE
automatic shut-off 5-60 minutes



Automatically shutting off at end of any desired time lapse of 5 to 60 minutes, the Flo-Matic valve finds application in filling tanks and vats, watering grass and green houses and for small irrigation systems. Unit is constructed of corrosion-resistant materials, and can also be used to meter the flow of chemicals, gasoline, oils, beverages and other liquids. It is 6-in. long, 2¾-in. wide and 2¼-in. high. Made by **Flo-Matic Valve Co.**, Dept. Mac-1, 1892 Wellesley Ave., St. Paul 5, Minn.

▲ For more details circle **NED-301 G3** on enclosed inquiry slip ▲

How to CUT AND STRIP INSULATED WIRE... *as fast as* 3,000 *lengths per hour!*



ARTOS *Automatic* MACHINES REDUCE TIME AND COST

For quantity production of finished wire leads . . . measured, cut to length, and stripped at one or both ends . . . investigate Artos Automatic Machines.

The Model CS-6 illustrated can complete up to 3,000 pieces per hour in 15-in. lengths, and other lengths in proportion. You save through combined operations . . . through quick, easy set-up . . . through unskilled help who can handle this machine. You obtain substantial time savings over the best manual or semi-automatic methods.

Highly accurate machine operation reduces work spoilage to an absolute minimum—errors due to the human element are eliminated. There is no cutting of strands or nicking of solid wire. Uniform lengths and uniform stripping are produced consistently.

MODEL CS-6E CAPACITY

FINISHED PIECES PER HOUR —15 in. lengths, 3000 per hour; 97 in. lengths, 500 per hour.
MAXIMUM STRIPPING LENGTH—1½ in. at each end.
MAXIMUM CUTTING LENGTH—97 in.
MINIMUM CUTTING LENGTH —2 in. (⅞ in. special).
WIRE HANDLED—Solid or stranded single conductor wires, parallel cord, heater cord, service cord, etc.
MAXIMUM WIRE SIZE—No. 10 stranded or No. 12 solid.

WRITE FOR BULLETIN

Get the complete story—write now for Bulletin 35-C on Artos Model CS-6 machines.

Automatic Wire Cutting and Stripping

ARTOS ENGINEERING CO.

2751 S. 28th St. • Milwaukee 46, Wis.

▲ For more details circle **NED-302 G3** on enclosed inquiry slip ▲

P&H ZIP-LIFT

TAKE A TIP BUY A ZIP!

Whatever your handling problems include, chances are the Zip can save you time and money with fast, effective "thru-the-air" handling. It's a real wire rope electric hoist — with full magnetic push button control. Safer — more dependable — built for lifetime service. 2,000 lbs. capacity; with bolt, hook, or trolley mounting. It's America's finest small hoist.

SEND FOR YOUR FREE COPY

This fully illustrated 20-page bulletin will give you many cost-cutting ideas. Write for it today. Ask for NEW ZIP-LIFT Bulletin.

HARNISCHFEGER CORPORATION
MILWAUKEE 46, WISCONSIN

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WE'LL SEND YOU THIS WHOLESALE CATALOG FREE!

Save Money

OVER 9,000 ITEMS INCLUDING

THE HARRY ALTER CO.
1726 S. MICHIGAN AVE., CHICAGO 16
132 LAFAYETTE ST., NEW YORK 13

▲ For more details circle **NED-304 G3** on enclosed inquiry slip ▲

EVERYTHING YOU WANT *in this* NEW 1/4" DRILL

1) True-centering Jacobs Multigraph Chuck
2) Compound reduction gears deliver maximum power
3) Drills within ¼" of vertical surface
4) Thumb-trigger lock for instant control
5) Convenient chuck key strap included
6) Longer, full-hand pistol grip
7) Spindle ball bearing absorbs radial, thrust loads
8) Air vents never blocked by left hand
9) Brushes easy to get at for quick change
10) Strain reliever prevents cord pulling out

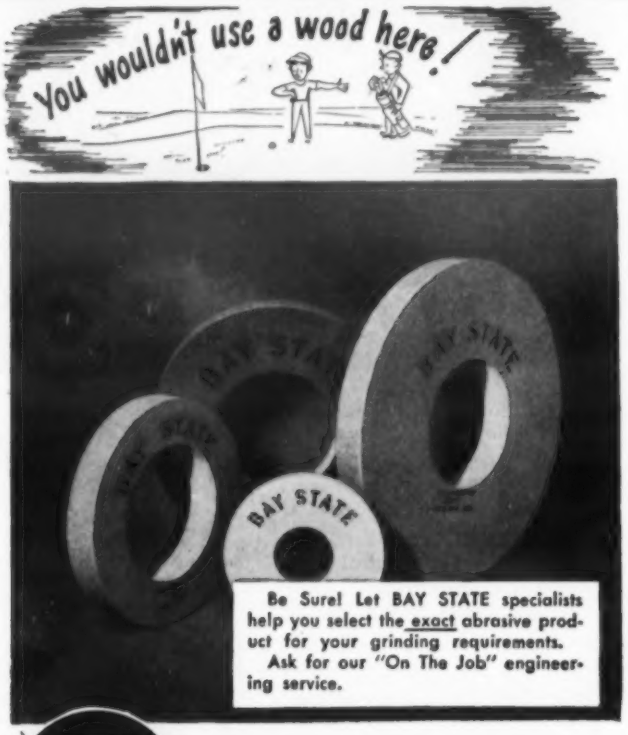
• *PLUS speed, power:* drills 1" bar stock in 2 min.; 1" hardwood board in 1¼ min.

ONLY $29.95 MODEL 107

Porter-Cable *Quality Electric Tools*

Porter-Cable Machine Co.
1607 No. Salina St., Syracuse, N. Y.
(In Canada: Strongridge, Ltd., London, Ont.)
See it at your Porter-Cable dealer's or mail coupon for new folder "How To Choose A Drill."
Name_____
Street_____
City_____ County_____ State_____
Manufacturers of SPEEDMATIC and GUILD Electric Tools

▲ For more details circle **NED-305 G3** on enclosed inquiry slip ▲



Be Sure! Let BAY STATE specialists help you select the exact abrasive product for your grinding requirements.
Ask for our "On The Job" engineering service.

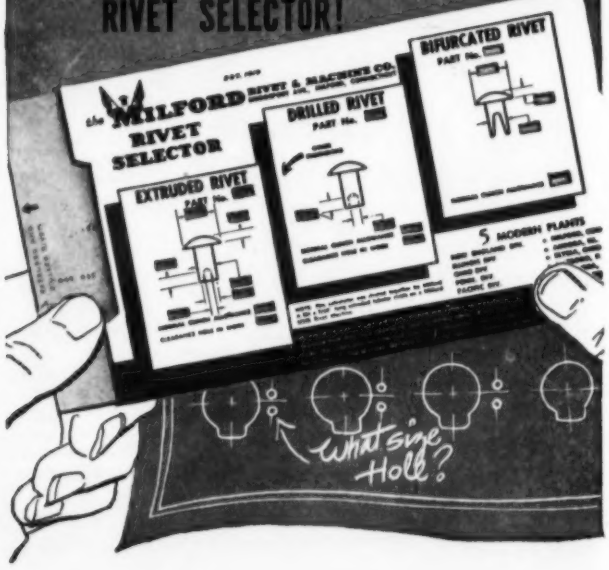
BAY STATE

BAY STATE ABRASIVE PRODUCTS CO.
Westboro, Massachusetts, U. S. A.
Branch Offices and Warehouses:
Chicago, Cleveland, Detroit, Pittsburgh
Distributors — All Principal Cities
In Canada: Bay State Abrasive Products Co. (Canada) Ltd., Brantford, Ont.

For more details circle NED-306 G3 on enclosed inquiry slip

newest aid
to users of fasteners

Everyone who designs, specifies or purchases needs this useful
RIVET SELECTOR!



Handiest selector ever!

Simplifies your job; saves time, speeds choice of right fastener. Easy to read, easy to use, handsomely lithographed in red, white and blue. Shows various tubular and split rivets, part catalog number, normal clinch allowance, size of clearance hole in work and other details to aid your product manufacturing. Sturdily riveted together for lasting use.

Write for yours today!

EST. 1919
MILFORD

The name to *RIVET* in your memory for fasteners.

THE MILFORD RIVET & MACHINE COMPANY

929 Bridgeport Avenue, Milford, Conn.
878 Illinois Avenue, Aurora, Ill.
1158 W. River Street, Elyria, Ohio
78 Platt Street, Hatboro, Penn.
753 So. Palm Avenue, Alhambra, Calif.

For more details circle NED-307 G3 on enclosed inquiry slip

HAND TACHOMETER
five-speed unit has overspeed safety

Slip coupling employed in type UO universal five-range hand tachometer provides overspeed protection which prevents damage to mechanism resulting from accidental overspeeding on the wrong range. Instruments are available in four models with ranges of 30-12,000, 45-18,000, 60-24,000 and 120-48,000 rpm. Each has five ranges of about 7-in. scale length. Accessories include carrying case, complete line of tips and wheel tip for fpm measurements. Distributed by **Herman H. Sticht Co.**, Dept. ED, 27 Park Pl., New York 7, N. Y.

For more details circle NED-308 G3 on enclosed inquiry slip

COATED CONVEYOR BELT
resists aging, abrasion, chemicals

Scandura is a solid woven textile belt with a surface coat of plasticized polyvinyl chloride. Solid woven refers to a multi-ply construction where plys are interwoven and have no dependence on the adhesive properties of the covering material. Belting has good resistance to aging and abrasion and is unaffected by most chemicals and oils. It will not support combustion, holds all types of belt fasteners, can be washed or steam-cleaned and may be used at temperatures from −22 to 212° F. Special coating permits lower temperature use. Belting is offered in widths from 1 to 42 in. and in thicknesses from 1/8 to 3/8-in., with coating on one or both sides in a variety of colors. Made by **Scandinavia Belting Co.**, 250 Central Ave., Newark 1, N. J.

For more details circle NED-309 G3 on enclosed inquiry slip

FLOOR CLEANING MACHINE
gasoline or electric powered

Designed with a large suction nozzle mounted in a fixed position just above the floor surface, the Plantman Floormobile floor cleaning machine has a 31.4-sq in. opening for picking up all kinds of scrap and litter without clogging. Machine has gasoline or electric power option and is capable of moving 860 cfm. Nozzle clears a 22-in. path at speed of 15,000 sq ft per hour. Made by **Handling Devices Co.**, Room 490, 43-45 Pearl St., Brookline 46, Mass.

For more details circle NED-310 G3 on enclosed inquiry slip

ARO BLOW GUN
Metered air pressure!

- Throttle valve meters air exactly...just press for more pressure ...or set for *fixed pressure.*
- Extremely simple design.
- Easy to use—fits your hand.
- One piece cast housing—sturdy, rugged construction.
- For wide range of cleaning jobs in shops, foundries, production, inspection, shipping, etc. Write for details.

The Aro Equipment Corp., Bryan, Ohio
Offices in All Principal Cities
Aro Equipment of Canada, Ltd., Toronto, Ont.

ARO BLOW GUN
Also ... Air Tools ... Lubricating Equipment ... Hydraulic Equipment ... Aircraft Products ... Grease Fittings

For more details circle NED-311 G3 on enclosed inquiry slip

"Weld-Bilt" EQUIPMENT GIVES YOU
LONGER SERVICE IN LABOR-SAVING MATERIALS HANDLING

You can SEE the greater strength and durability in WELD-BILT Equipment . . . in heavier arc-welded construction, in sturdier operating parts, in many innovations that assure easier, friction-free operation. Every piece of "Weld-Bilt" equipment is designed to save operator fatigue, protect product and save money both on original cost and maintenance expense.

You can easily PROVE "Weld-Bilt's" superiority through many more years of actual performance in hundreds of plants all over the Nation. It means your lowest possible investment-per-year in time and labor saving.

Write or wire for prices today . . . or for engineering assistance on your handling problems or plans.

WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 Water Street, West Bend, Wisconsin

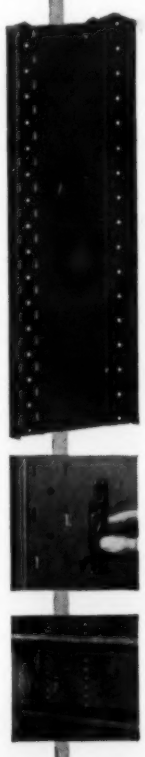
For more details circle NED-312 G3 on enclosed inquiry slip

Yes, one false note can ruin years of hard-earned good will. That's why Kester stresses consistency . . . makes sure the solder alloy and especially the flux formula never varies. Kester never experiments at the expense of the solder user!

FREE: *Technical Manual*
Write for your copy of "SOLDER and Soldering Technique."

KESTER
SOLDER COMPANY
4249 Wrightwood Avenue • Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

For more details circle NED-313 G3 on enclosed inquiry slip



3 reasons why
DeLuxe Steel Shelving
costs you less

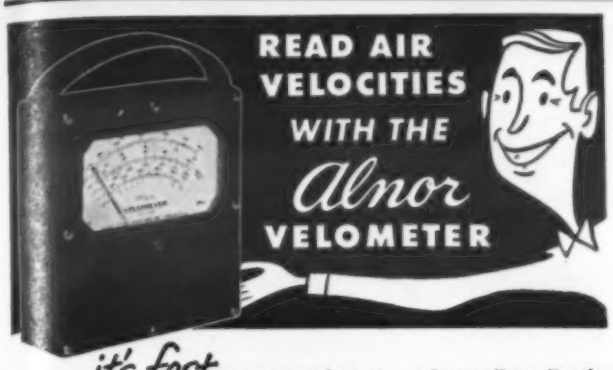
The real cost of shelving is the erected cost

1. **Fewer Parts**—DeLuxe has designed one part where ordinary shelving uses three. Example, our bin-type "I-Beam" upright. *Fewer parts mean fewer man hours to install.*
2. **80% Less Bolts**—DeLuxe shelving uses patented, boltless shelf brackets, thus requires *no tools* for either installation or adjustment.
3. **100% Adjustable**—Shelves in each section are independently adjustable, without disturbing other contents. DeLuxe shelving erects on the spot, in position where you want it . . . the only shelving that does all this.

There is a DeLuxe factory representative in your area who will give you our engineering, planning and layout service without obligation. Write today for free catalog.

DELUXE METAL FURNITURE CO.
305 Struthers St., Warren, Pa.
DeLuxe
For over 25 Years Manufacturers of: Storage Shelving
Library Shelving • Storage Cabinets • Shop Equipment

For more details circle NED-314 G3 on enclosed inquiry slip



it's fast . . . you get instant, precise readings directly from scale face . . . no need for reference charts or calculations. Measure air flow through ducts, grilles, motors, spray booths, etc., or in the open.

it's accurate . . . brings laboratory standards of air velocity measurement to the production line, mine, mill . . . anywhere. Needs no special care or handling . . . anyone can use it and get accurate results.

it's portable . . . completely self-contained, hand-held. Rugged construction and sturdy case protect the Velometer from usual hazards of portable use. Available in scale ranges to 24,000 f.p.m. Wide selection of jets and fittings assures adaptability of Alnor Velometer to your application. Get full details and prices, write for Bulletin 2448-G. Illinois Testing Laboratories, Inc., Rm. 529, 420 N. La Salle St., Chicago 10, Ill.

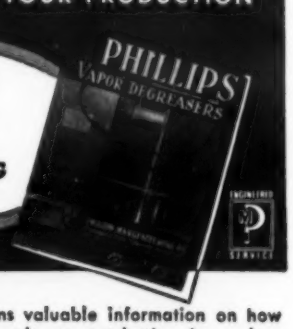
Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▲ For more details circle NED-315 G3 on enclosed inquiry slip ▲

PHILLIPS

LEARN HOW VAPOR DEGREASING CAN CUT COSTS AND INCREASE YOUR PRODUCTION

SEND FOR YOUR FREE COPY OF PHILLIPS' NEW DEGREASING BULLETIN



HERE's a new bulletin that contains valuable information on how modern vapor degreasing speeds up production in modern factories by making metal cleaning operations faster and more economical. Listed below are some of the features of this new book:

WHAT DEGREASING IS — A full description of what vapor degreasing is and what it will accomplish for you.

HOW DEGREASERS WORK — A series of photographs and written description shows what happens in the degreasing process.

DEGREASER APPLICATIONS — Illustrates number of different applications of degreasers to solve metal cleaning problems in various industries.

COMPLETE LINE OF STANDARD DEGREASERS — Describes Phillips' full line of standard equipment, including batch type, combination, rotomatic, and conveyorized models.

SPECIALLY ENGINEERED UNITS — Tells about Phillips' service in designing special degreasing units for solving unique metal cleaning problems.

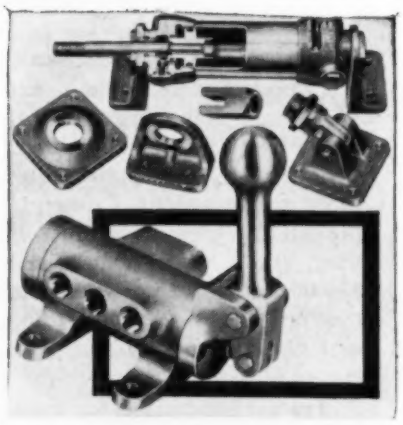
Phillips 3463 Touhy Avenue • Chicago 45, Illinois MANUFACTURING COMPANY Engineered Metal Cleaning Equipment

▲ For more details circle NED-316 G3 on enclosed inquiry slip ▲

SEAL OF PROVEN PERFORMANCE

Modernair

FLUID POWER EQUIPMENT SPECIALISTS



VALVES – CHUCKS – CYLINDERS – SILENCERS – SOLENOIDS
HYDRAULIC PUMPS – COMPRESSORS – PILOTS – AIR CONTROLS
MACHINE FEEDS – CLAMP CYLINDERS – QUICK EXHAUSTS

WRITE FOR CATALOG

STOCKS IN PRINCIPAL CITIES

Modernair CORPORATION
400 PREDA STREET • SAN LEANDRO, CALIFORNIA

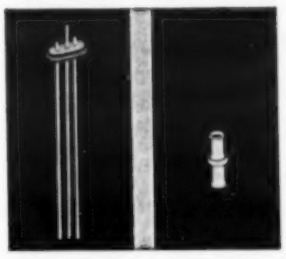
▲ For more details circle NED-317 G3 on enclosed inquiry slip ▲

LOADING DOCK unit is self-contained

A completely self-contained unit, the Rite-Hite Unit dock can be installed in front of the present dock, or can be recessed in a dock area. The manually operated dock has both vertical and horizontal adjustment by means of levers mounted at one side of the ramp. Unit compensates for variation betwen truck and dock heights. Made by **Loomis Machine Co.**, 14 Fourth St., Clare, Mich.

▲ For more details circle NED-318 G3 on enclosed inquiry slip ▲

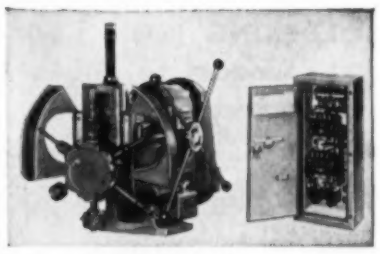
TRANSISTOR HOUSINGS give heat and humidity protection



Bases and hermetically sealed containers for transistors which solve many of the problems connected with mounting and heat and humidity protection are now being mass produced. Hermetic seals are small and close tolerance as a result of continuing development work in new glasses and metal alloys. Units are manufactured for germanium diodes, point-contact transistors and junction transistors. Made by **Hermaseal Co.**, Dept. 16, 1101 Lafayette St., Elkhart 10, Ind.

▲ For more details circle NED-319 G3 on enclosed inquiry slip ▲

DRILLING & TAPPING MACHINE is designed for flange mounting



An adaptation of the standard model 2A machine, flange mounting model 2B drilling and tapping machine can be mounted on any type of base, in a variety of positions. Two or more machines can be mounted on the same base at various angles for performing operations on different planes at the same time. Machine is equipped with a separately mounted electric panel and chain counterweight unit. An automatic hydraulic feed is available on the unit which has the same spindle speeds, ram travel, feed handles, motor and other features of model 2A. Spindle travel is 8 in., throat depth is 12 in. and size of mounting flange is 15 x 12 in. Made by **Burg Tool Mfg. Co.**, Dept. NE, 3743 Durango Ave., Los Angeles 34, Calif.

▲ For more details circle NED-320 G3 on enclosed inquiry slip ▲

FAMOUS LAST WORDS:
"Nuttin' ever happens on Sunday"

Three hours later the roof caved in—and the Watchman barely escaped with his life.

Aware of the increased hazards on weekends—which show a high incidence of fire, burglary and vandalism —more and more plants are installing the DETEX *tape-recording* GUARDSMAN *Watchclock system.*

With a capacity of 96 hours, the GUARDSMAN maintains unbroken mechanical supervision of your Watchman on weekends. There's no need for a Supervisor (at time and one-half) to return to the plant Saturday and Sunday just to change the clock dial. Entrusting this function to the Watchman is not only against insurance regulations, but it is inviting disaster.

Modernize with the GUARDSMAN. *Be safe on weekends as well as week days. Send for free folder.*

DETEX WATCHMENS CLOCKS
PATROL ALERT ECO NEWMAN GUARDSMAN
DETEX WATCHCLOCK CORPORATION Dept. N-7
76 VARICK STREET, NEW YORK 13, N. Y.
Sales and Service in All Principal Cities

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NEW DISC CLUTCH

for gasoline engines, electric motors, speed reducers, etc.

operates with light pressure
picks up load without grab

integral V-belt pulley
integral sprocket
cut-off coupling or sleeve
easy manual operation
adjustable
powerful

For stub or through shaft application, these new Type K clutches—rated up to .8 HP at 100 rpm—have generous safety factors throughout to stand severest service. Threaded steel adjuster permits precise easy adjustments to assure maximum capacity and minimum engaging pressure. Clutch locks itself in engaged position.

Write for new descriptive Bulletin K-1, including complete specifications.

THE EDGEMONT MACHINE CO.
2200 HOME AVENUE • DAYTON 1, OHIO

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To get better prints ... faster

Tapco Plant, Thompson Products, Inc., uses Kodagraph Autopositive intermediates in print production

The Tapco Plant knows full well that illegible shop prints pave the way for costly reading errors; knows, too, that Kodagraph Autopositive intermediates are low-cost insurance against such a possibility.

It therefore reproduces its more critical and complex jet and valve drawings on Kodagraph Autopositive Paper Translucent and thus obtains—quickly and easily—sparkling "masters" for print making which have dense photographic black lines on an evenly translucent, premium-quality paper base; *which* will produce highly legible whiteprints time after time at *stepped-up* machine speeds.

Extremely fine-detailed drawings are reproduced on Kodagraph Autopositive Film, which captures the faintest detail . . . keeps close lines from "filling in" . . . and produces top-quality photographic intermediates with extremely fast print-back speeds.

No negative step . . . no darkroom handling. Kodagraph Autopositive Paper and Film are handled in exactly the same manner . . . produce positive photographic intermediates *directly*. First, they are exposed in one of the Tapco Plant's direct-process machines—or in a photocopy unit. Then, they receive standard photographic processing. A fast, convenient room-light operation all the way. And no new equipment needed.

Write today for a free copy of "Modern Drawing and Document Reproduction." It gives complete details on the revolutionary line of Kodagraph Reproduction Materials, which you, or your local blueprinter, can process conveniently, economically.

Kodagraph Autopositive Materials

"THE BIG NEW PLUS" in Engineering Drawing Reproduction

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak

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NEW INDUSTRIAL HUMIDIFIER

BAHNSON TYPE E Self-Contained Unit Humidifier

Requires only water supply and electrical connection

NOTE THESE FEATURES!

- HIGH CAPACITY—Evaporates 3 gallons per hour with ¼ HP motor.
- AUTOMATICALLY CONTROLLED at any desired relative humidity.
- SIMPLE TO INSTALL—Just uncrate and suspend from ceiling.
- ELECTRIC MOTORS for all common current characteristics.
- WATER SUPPLY connection for ¼" tube or ⅛" pipe provided.
- NEEDS NO pump, duct, compressed air, steam, drain or floor space.
- EFFICIENT centrifugal atomization of ordinary city water.
- TWO MODELS, ¼ HP for high capacity, ⅛ HP for small rooms.

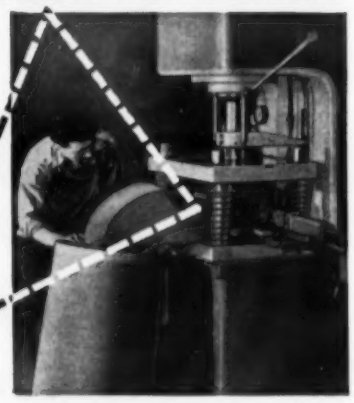
FOR COMPLETE HUMIDIFICATION SYSTEMS, FOR BOOSTING, FOR SPOT HUMIDIFICATION, FOR LABORATORIES

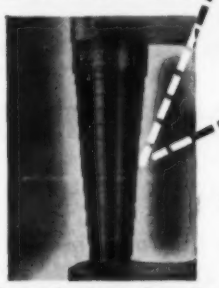
FOR TRULY DEPENDABLE LOW-COST HUMIDIFICATION Bahnson Company ENGINEERS AND MANUFACTURERS WINSTON-SALEM, N. C.

For more details circle NED-324 G3 on enclosed inquiry slip

DIE LIFE INCREASED 25% with ELASTICONE GUIDE PIN COVERS

Get increased performance from Dies with Elasticone Guide Pin Covers. Protects pins and bushings from nicks and scratches . . . preserves Dies' accurate alignment . . . reduces lubrication and maintenance. JUST SNAP INTO PLACE! *No Installation Costs!*





Elasticones are manufactured in stock sizes. Specify O.D. of bushing and full open height of set when ordering.

Investigate today the many new cost-saving engineering advantages in die designing with Elasticones.

Write for full information and literature.

CENTRAL

2208 EAST HUNTINGDON ST. PHILA. 25, PA.

CENTRAL SAFETY EQUIPMENT COMPANY

For more details circle NED-325 G3 on enclosed inquiry slip

ROCKFORD CLUTCHES

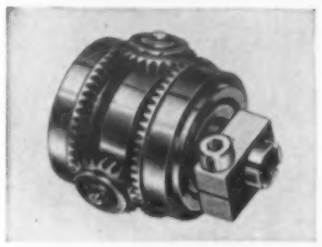
Every type and size ROCKFORD CLUTCH must pass torque, strength, pressure, spin, heat, balance, wear, deflection, friction, run-out, flatness and endurance tests before being put into production. These torture tests are made on specially designed, accurate, clutch-checking machines. Let our engineers give *your* products the benefit of ROCKFORD test-proved CLUTCH reliability.

B-W PRODUCTION MAKES IT AVAILABLE

ROCKFORD CLUTCH DIVISION BORG-WARNER
312 Catherine Street, Rockford, Illinois, U. S. A.

For more details circle NED-326 G3 on enclosed inquiry slip

DIFFERENTIAL
has hollow shaft and low inertia



For accuracy in additive and subtractive operations, this low-inertia hollow shaft differential can be positioned axially on the shaft. It will have primary application to angular or angular velocity sums and differences and sequence operations. The unit has an inertia of 0.0745-oz-in.^{2}, a maximum backlash of 0.10-minutes and weighs 1¼ oz. It has an overall axial length of 1 3/16-in. and receives a 3/16-in. diameter shaft. Shrunk-on side gears are safety-keyed and available to order. Made by **Librascope, Inc.**, 1608 Flower St., Glendale, Calif.

For more details circle NED-327 G3 on enclosed inquiry slip

ALUMINUM PALLETS
cleanable, lightweight, nonsparking

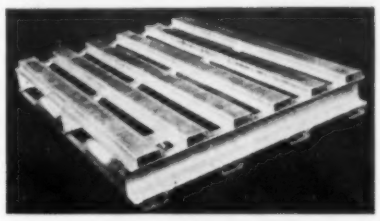
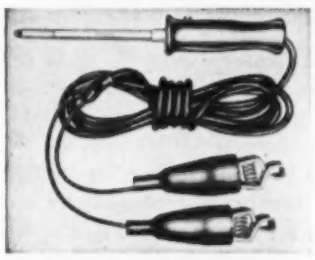


Illustration shows a typical unit from a line of aluminum pallets, all of which are very lightweight, easily cleanable and nonsparking. Deck sections are made from 0.051 to 0.080-gage materials and legs or runners are 0.064 to 0.2-in. thick depending upon the weight to be carried and the nature of service required. Alloy rivets are used for fabrication, and the units present a smooth surface that will not tear, rip or scratch. They are fire, moisture, vermin and rust-proof, and can be steam cleaned. Made by **Louisville Metal Products Co.**, Dept. NED, 1101 W. Oak St., Louisville 10, Ky.

For more details circle NED-328 G3 on enclosed inquiry slip

SOLDERING IRON
connects to either 6 or 12 v



This quick-heating soldering iron can be connected to either 6 or 12 v battery and melts solder in 20 seconds. It will generate any degree of heat required for soldering lightest to heaviest work. Nickel-chromium heating element is embedded in tip, yet tip is small enough for fine work. Switch button controls heat. Tip and element are one unit and are easy to replace. Unit is equipped with 12-ft abrasion and oil resistant rubber heater cord, battery clips and nonbreakable plastic handle. Made by **Hexacon Electric Co.**, 145 W. Clay Ave., Roselle Park, N. J.

For more details circle NED-329 G3 on enclosed inquiry slip

TWICE the Power at the SAME COST!

GR

G-R announces an entirely new VARIAC continuously-adjustable transformer with a power rating of 345 volt-amperes. This VARIAC is designed to replace the popular Type 200-B, and has TWICE the power rating of the 200-B. The price is the same: $12.50.

The Type V-2 is equipped with the new and exclusive DURATRAK brush-contact surface which provides improved performance, even longer life, and practically no maintenance.

For complete information write for the NEW Variac Bulletin!

NEW Type V-2 Variac

Price $12.50

GENERAL RADIO Company 275 Massachusetts Ave. Cambridge 39, Mass.
90 West St. NEW YORK 6 920 South Michigan Ave. CHICAGO 5
1000 North Seward St. LOS ANGELES 38

For more details circle NED-330 G3 on enclosed inquiry slip

A-97

Precise PRESSURE Measurement

Sensitivity 0.2%

W&T PRECISION LOW PRESSURE GAUGE—FA-141

Ranges: All ranges from 0-10 inches water to 0-30 inches Hg.

Write today for Publication No. TP-27-A

WALLACE & TIERNAN
ELECTRICAL MECHANISMS AND PRECISION INSTRUMENTS
Belleville 9, New Jersey . . . Represented in Principal Cities
In Canada, Wallace & Tiernan Products, Ltd.—Toronto

For more details circle NED-331 G3 on enclosed inquiry slip

The COST of PRECISION GEARS

depends on the maker's equipment

. . . and no where is there faster or better equipment than at

Sier-Bath
GEAR & PUMP CO., Inc.

We have at least one . . . and in most cases more than one . . . of all the *fastest* and *most modern* turning and gear cutting equipment. *No one* has equipment that is more advantageous. Consequently, we have proven to a great many customers that when they get a price from Sier-Bath of, say, $10.00 per gear, unless a competitive price runs between $9.25 and $11.00, it is positively *not the same quality.*

Try us! Send prints for prompt quotation

Sier-Bath GEAR & PUMP CO., Inc.
9268 Hudson Blvd., North Bergen, N. J.

Founded 1905 Member A.G.M.A.

Also manufacturers of Rotary Pumps and Flexible Gear Couplings

For more details circle NED-332 G3 on enclosed inquiry slip

Raises, lowers and transports loads without swing because of patented hoisting rope arrangement. Advantageous for anodizing, dip painting, automatic welding, handling hot metal in foundries, etc. Many units now in operation speeding production and lowering costs.

GET THIS DATA
Graphic Vol. 1, No. 4 gives details. Write for free copy.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6616 East 285th St., Wickliffe, Ohio

CLEVELAND TRAMRAIL

For more details circle NED-333 G3 on enclosed inquiry slip

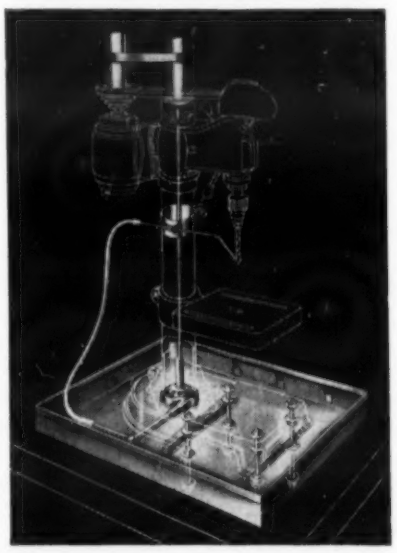
FORK LIFT TRUCK
gas powered, electrically driven unit has emergency brakes

Gasoline powered with an electric infinite-step transmission, the Dynamotive fork lift truck has no mechanical connections from engine to drive unit. Transmission shock loads are not transmitted to engine. Design gives the operator good vision from his seat, besides incorporating full size bench type seat, centralized controls and grouping of all instruments on the steering post column. Should hydraulic wheel brakes fail, emergency disk brakes take over.

A load indicator shows weight of material on the truck's forks at any given time. Optional equipment includes engine-hour meter, headlights, taillights, two-way radio, water and catalytic mufflers and converters for propane or butane gas. Capacities range from 4000 to 6000 lb and heights of telescoping lifts are 124 in., with a standard 83-in. overall height. Made by **Automatic Transportation Co.**, 149 W. 87th St., Chicago 20, Ill.

For more details circle NED-336 G3 on enclosed inquiry slip

COOLANT PUMP UNIT
for any popular bench drill press



This compact coolant pump can be installed quickly into the hollow column of any popular make bench drill press. Driven by drill press motor, pump operates with ½-gal of coolant of any type, carrying the liquid through tubing beneath press. Pan is provided with clips on sides to hold splash shields when additional height is desired. Intake is screened to keep out drillings that might clog flow line. All fittings necessary for installation are supplied with instructions for quick assembly. Made by **Wade & Sons**, 966 E. Truman Rd., Independence, Mo.

For more details circle NED-337 G3 on enclosed inquiry slip

Just a single stroke!...
CUTS ROUND RODS ⅛" to ⅞" on a
MARVEL ROD CUTTER

Available in three models:

No. 5	⅛	3/16	¼	5/16	⅜
No. 6	⅜	7/16	½	9/16	⅝
No. 7	⅜	½	⅝	¾	⅞

These are bench models, but the No. 7 MARVEL Rod Cutter can be furnished mounted on legs. See your Industrial Distributor or write us for literature and prices.

ARMSTRONG-BLUM MFG. CO.
5700 W. Bloomingdale Ave. • Chicago 39, U.S.A.
Manufacturers of the outstanding MARVEL Metal Saws.

For more details circle NED-339 G3 on enclosed inquiry slip

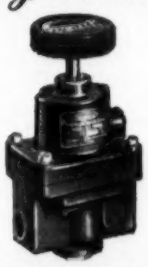
FREE TO MEN RESPONSIBLE FOR SLASHING DOCK HANDLING COSTS

No matter what type of carriers serve your company, no matter what your present dock facilities, here is one of the most complete data files ever offered to increase your dock handling efficiency, reduce your dock handling costs. Write for yours today.

ROWE METHODS INC.
2534-I DETROIT AVENUE • CLEVELAND 13, OHIO

For more details circle NED-334 G3 on enclosed inquiry slip

Engineered Air Regulation



KENDALL MODEL 30
Precision Air Pressure Regulator
AVAILABLE ¼" or ⅜" N. P. T.
RANGES 0-10, 30, 60, 100 PSIG
Send for BULLETIN 9523

FIRST TRUE HIGH PRECISION AIR PRESSURE REGULATING VALVE AT NEW LOW COST

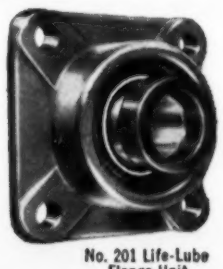
FEATURES:
☆ Perfect Balance — complete immunity from upstream pressure changes ☆ Large Flow Capacity (35CFM) — automatic relief — flow compensation ☆ Small Physical Size ☆ Removable Stainless Steel Valve Trim ☆ Deep Convolution Constant Area Diaphragms made by our own Bellofram Division ☆ Aircraft Quality materials and finishes ☆ Adaptable to all types of mounting ☆ New Low Unit Cost

APPLICATIONS:
☆ *Instrument service—internal and external*
☆ *Pneumatic gauges* ☆ *Paint sprayers* ☆ *Machine shop use*
☆ *Diaphragm and cylinder air loading*

KENDALL CONTROLS CORPORATION
144 MOODY STREET WALTHAM 54, MASS.

For more details circle NED-335 G3 on enclosed inquiry slip

No. 200 Life-Lube Pillow Block


No. 201 Life-Lube Flange Unit

reduce maintenance costs with WOOD'S *LIFE-LUBE* bearing units

Absolutely no periodic lubrication maintenance is required on Wood's Life-Lube bearing units. They're lubricated at our factory for life. Now, you can do away with the grease gun and the man's time behind it because a synthetic seal (bonded to a steel core) keeps lubricant in and dirt out. Ideal for heavy dust, dirt or lint conditions. These units are of modern design, sturdy and compact. Standard 200 series MRC ball bearings with wide, deep ball race groove sustains the radial load and substantial thrust either way. For further information, write for Bulletin 194 or consult your Wood's Industrial Distributor.

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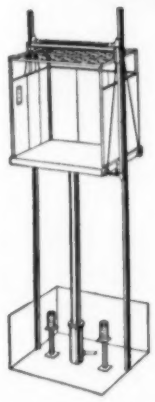
CHAMBERSBURG, PA.
Mechanical Power Transmission Manufacturers—Since 1857.
CAMBRIDGE, MASS. • NEWARK, N.J. • DALLAS, TEXAS • CLEVELAND, O.

For more details circle NED-338 G3 on enclosed inquiry slip

Rotary Oildraulic®
HEAVY-DUTY ELEVATORS

Most economical type for rises up to 50 feet



FEATURES:
- Modern hydraulic operation
- No costly, unsightly penthouse
- Smooth starts and stops
- ¼" accuracy on landings
- Low operating and upkeep expense
- Rugged car construction
- Engineered for power truck loading
- High efficiency power units
- New Oildraulic Controller
- Capacities up to 100,000 lbs.

Over 75,000 Oildraulic elevators and lifts are now in use . . . backed by Rotary's coast-to-coast organization.

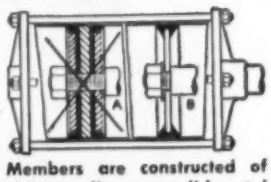
MAIL NOW FOR NEW CATALOG
ROTARY LIFT CO., 1017 Kentucky, Memphis 2, Tenn.
Send catalog on Rotary Oildraulic Elevators to:
Name_____
Address_____

Rotary
OILDRAULIC ELEVATORS

For more details circle NED-340 G3 on enclosed inquiry slip

Double Acting One-Piece PISTON

HERE'S REAL SIMPLIFICATION



A complete one piece, Double Acting PISTON—so skillfully designed that 1 part (B) actually replaces 5 to as high as 7 parts, ordinarily used in conventional assembly (A).

This radically new ALLIS Piston is a unit piston plate and packing. Cup Members are constructed of highly resistant synthetic rubber, molded integrally to a solid metal plate. Time Tested and Proven—Highly Efficient with constant Lip Sealing action. Cannot be installed incorrectly.

Available in all standard cylinder sizes,—for Hydraulic and Pneumatic mediums such as oil, water, air, etc. Now being used by machinery manufacturers as standard or original equipment. Write for details today.

We produce MOLDED MECHANICAL RUBBER PRODUCTS . . . Bellows, Boots, Packings, Seals, Diaphragms, Dampeners, etc. Each part is Laboratory Controlled and Formulated to meet your operational requirements.

Write today for our illustrated booklet—32 pages of vital information

ALLIS RUBBER CORPORATION

Tel: MOnroe 6-5050 130 N. Green Street Chicago 7, Ill.

▲ For more details circle NED-341 G3 on enclosed inquiry slip ▲

PROBLEM:

To get a Thermostat Element with the stability to operate for 100 years without calibration

SOLUTION:

General Plate TRUFLEX® Thermostat Metal provided this stability

The Museum of Science and Industry laid its "living" cornerstone September 3, 1952, thus starting a one hundred year experiment.

Within the 1-ton limestone block is a specially fabricated monel box containing a score of physically or biologically "alive" items from bacteria to metals . . . including a thermostatic clock which will record the years.

This clock is constructed to register once as the temperature falls to 20°F and will not count again until the temperature has risen to 85° and again fallen to 20°. It will register once each winter and count the number of years that have passed since the laying of the cornerstone.

Essential to the reliability of the clock was a thermostat element which would keep its stability without further calibration for 100 years.

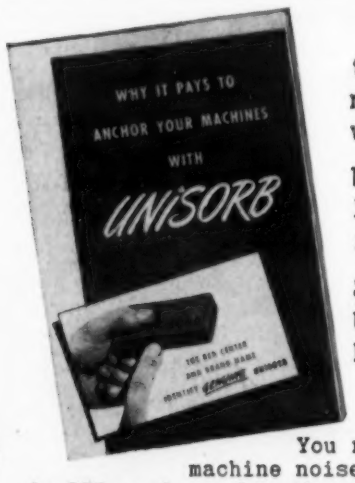
The scientist concerned with the project presented the problem to General Plate whose engineers provided the solution with a specially designed Truflex thermostat metal element.

You, too, can obtain constant and accurate performance in your products because General Plate fabricates to your exact specifications, complete Truflex thermostat metal units ready for installation.

If you prefer to make your own assemblies, General Plate will produce Truflex thermostat metal sheet or strip to your material specifications. Write for information or engineering assistance.

METALS & CONTROLS CORPORATION
GENERAL PLATE DIVISION
87 FOREST STREET, ATTLEBORO, MASS.

▲ For more details circle NED-342 G3 on enclosed inquiry slip ▲



to mount your machines without...

bolts
lag screws
floor damage

Send for the UNISORB® Booklet

You reduce transmitted machine noise and vibration up to 85%, and you lengthen machine life, when you use UNISORB mounting pads. And there is no danger of the machines "walking" when mounted this easy way. Send for your copy of the booklet describing this modern way to mount machines.

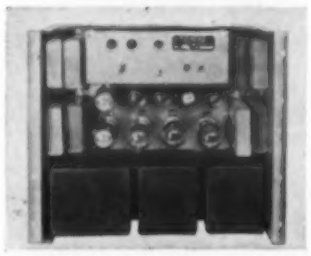
RETURN COUPON TODAY!

the **FELTERS** company, 224 South St. Boston, Mass.
Please send me a copy of "Why It Pays to Mount Your Machines on UNISORB" — at no obligation to me.

Name.....Title.....
(Please Print)
Company.....
Address.....
City.....Zone....State.....

▲ For more details circle NED-343 G3 on enclosed inquiry slip ▲

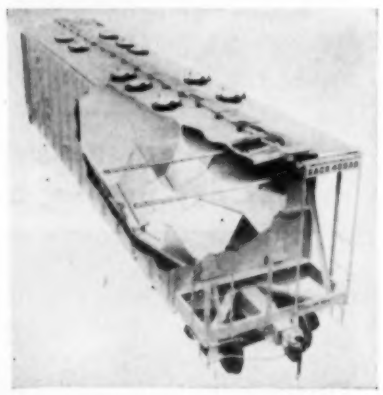
POWER SUPPLY UNITS
electronically regulated, low ripple



Output voltage of model PT-110 power supply is electronically regulated and adjustable from 400 to 450 v at load currents of 225 to 325 ma. Regulation is better than 0.2 per cent and ripple is less than 8 mv rms. Centering current return is available for television application. A bias supply, negative 150 v, 10 ma, is also contained in units and will operate over range of 105 to 125 v, 50 to 400 cycles per second. Dish-pan type construction and rack mounting chassis provides accessibility of all components. Oil filled capacitors are used throughout. Front control panel contains power switch, pilot light, fuses, test jacks and voltage control. Made by **Polarad Electronics Corp.**, 102 Metropolitan Ave., Brooklyn 11, N. Y.

▲ For more details circle NED-344 G3 on enclosed inquiry slip ▲

BULK MATERIAL FREIGHT CAR
built in four capacities for handling various material densities



Savings in containers, dunnage and labor can be realized when the Airslide bulk material freight car is used for transporting a wide range of powdered commodities of varying densities. Car can be built in sizes of 2000, 2600 and 3600 cu ft and offers good sanitation and minimized danger of contamination to its contents.

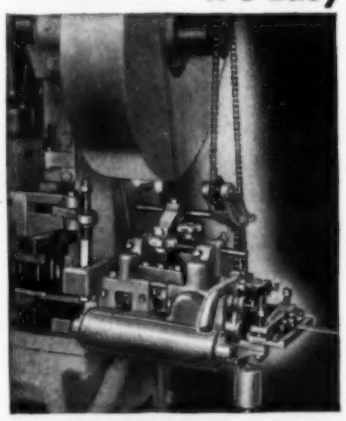
Incorporated in its construction is the Fuller Airslide which consists of a specially designed fabric stretched over a U-shaped shallow steel channel. Air is introduced below the fabric at a pressure of about 1 psi and in varying quantities, depending upon the material being transported. The Airslide slopes toward the car center and, as air is forced through the fabric, it slowly permeates the car contents. Result is that the material is aerated and fluidized, causing it to flow like water to the unloading point.

Loading is by gravity through roof hatches and unloading can be by gravity or pneumatics into any conventional conveying system. Only essential piece of equipment required is a small low pressure blower capable of delivering 200 cfm or more of air. Made by **General American Transportation Corp.**, Dept. N-19, 135 S. LaSalle St., Chicago 90, Ill.

▲ For more details circle NED-345 G3 on enclosed inquiry slip ▲

Get RAPID-FIRE PRODUCTION from your PUNCH PRESSES

It's Easy with WITTEK Automatic Roll Feeds



Wittek automatic roll feeds fit all makes and sizes of punch presses — provide maximum efficiency and extreme accuracy in the high speed automatic feeding of strip stock. Made in single roll, double roll, and compound types with straighteners, in models to feed (push or pull) in any direction. Length of feed is easily adjusted to meet individual requirements.

WITTEK Reel Stands

Simplify Handling of Coiled Stock

Choice of standard models to facilitate handling coiled stock . . . from small, light coils to those weighing up to 800 pounds. Larger reel stands automatically center the coils — provide frictional braking action to prevent overrunning, maintain uniform coil slack.

Write for full particulars

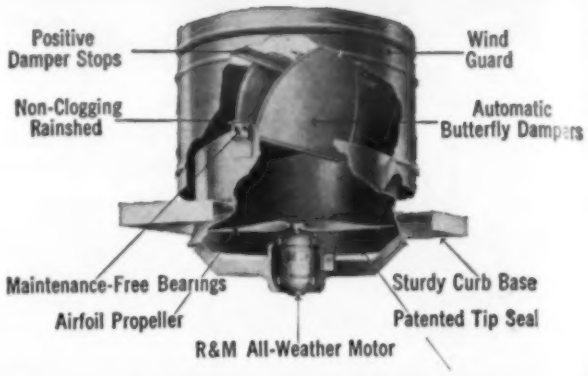
WITTEK Manufacturing Co.

4325 W. 24th Place, Chicago 23, Illinois

Automatic ROLL FEEDS AND REEL STANDS

▲ For more details circle NED-346 G3 on enclosed inquiry slip ▲

SKY-BLAST®
The Modern Power Roof Ventilator



Most economical way to expel heat, fumes, smoke

Every inch engineered for efficiency—that's the key to the famous Sky-Blast Power Roof Ventilator. With a powerful suction it sweeps up heat, moisture, dust, fumes—*then blasts them high into the outside air.* Easily mounted, long-lasting, low in operating costs, the Sky-Blast gives air deliveries up to 78,800 CFM. Ask us for advice on your ventilating system.

Write for Catalog 680-N.

PROPELLAIR®

DIVISION OF ROBBINS & MYERS, INC., SPRINGFIELD, OHIO

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proved by 16,000,000 Cycles

SNAP-LOCK
TRADE MARK

LIMIT SWITCHES

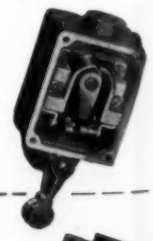
Four out of five machine tool builders use Snap-Lock limit Switches. On some machines you'll find as many as 75 units.

That kind of acceptance is proof of dependability in use. But it's no surprise to us—we proved it to ourselves first—by putting a Snap-Lock on breakdown test. The test machine got tired after 16,000,000 cycles—the Snap-Lock was still going strong.

That's why we say, when you're looking for a dependable limit switch—look to Snap-Lock. May we help you engineer them for your particular job?

ELECTRICAL FEATURES

Accessible wiring connections, self wiping coin silver contacts, no arcing, heavy insulation throughout, oil and dust resistant case. Single pole, double break, double throw— positive lock in ON or OFF position.



MECHANICAL FEATURES

Hardened steel parts, strong spring, rugged, compact construction, wide choice of operating levers. Snap-Lock is guaranteed mechanically and electrically for any normal circuit application.

ENGINEERING BULLETIN EM-51

gives complete engineering specifications for all types of standard Snap-Lock switches, styles of mountings, operating levers — or better still, ask our engineers to cooperate with yours on special applications.

ELECTRICAL MANUFACTURING DIVISION

The NATIONAL ACME Co.

182 EAST 131st STREET • CLEVELAND 8, OHIO

Acme-Gridley Bar and Chucking Automatics: 1-4-6 and 8 Spindle • Hydraulic Thread Rolling Machines • Automatic Threading Dies and Taps • Limit, Motor Starter and Control Station Switches • Solenoids • Contract Manufacturing.

▲ For more details circle NED-348 G3 on enclosed inquiry slip ▲

A Complete Line of Low Voltage CIRCUIT BREAKERS

Type TQL Actual Size

Available in ratings from 10 to 600 amperes and voltages up to 600 volt AC, 250 volt DC, either open type or with surface or flush-mounted enclosures, of semi-dust-tight, water- and dust-tight design. Accessories available for conversion to non-automatic, remote tripping, bell alarm and other special requirements.

Superior design and construction features enabled Trumbull Electric to develop U. S. Navy-approved breakers for shipboard service. Take advantage of their superior protection, convenience, permanence in your load center, panelboard, switchboard, industrial, commercial or residential applications.

Available through leading Distributors everywhere. Write direct for literature and technical information.

TRUMBULL (T) ELECTRIC

DEPARTMENT OF GENERAL ELECTRIC COMPANY
PLAINVILLE, CONN.

▲ For more details circle **NED-349 G3** on enclosed inquiry slip ▲

Small precision metal parts... Torrington makes them better, and for less!

FREE CATALOG — shows the great variety of small parts we can produce inexpensively and promptly. Send for copy today!

If your product uses small precision metal parts . . . pivots, pins, dowels, rollers, mandrels, needles, punches, etc. . . . send us your blueprints for a prompt quotation.

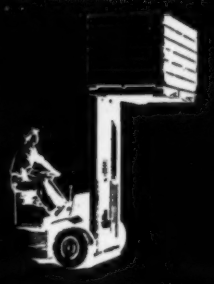
As a leading contract fabricator, TORRINGTON is equipped with the special machinery to produce in any quantity for quick delivery at low prices.

THE TORRINGTON COMPANY
Specialties Division
420 Field Street • Torrington, Conn.

Makers of
TORRINGTON NEEDLE BEARINGS

▲ For more details circle **NED-350 G3** on enclosed inquiry slip ▲

Generalift ★★★★★ PALLET BOXES



cut materials handling costs 50%

WRITE US FOR DETAILS

Send for your Free Copy of "THE GENERAL BOX"

General ★★★★★ BOX COMPANY
GENERAL OFFICES: 1859 MINER STREET
DES PLAINES, ILLINOIS
FACTORIES: Cincinnati; Denville, N. J.; Detroit; East St. Louis; Kansas City; Louisville; Milwaukee; Prescott, Ark.; Sheboygan; Winchendon, Mass.
General Box Company of Mississippi, Meridian, Miss.
Continental Box Company, Inc., Houston

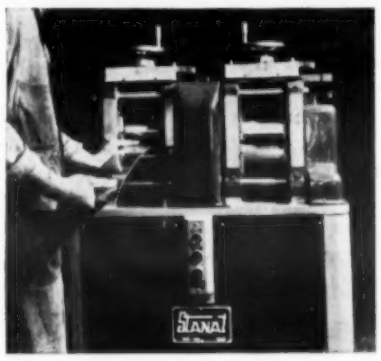
▲ For more details circle **NED-351 G3** on enclosed inquiry slip ▲

RIBBED V-BELT for variable speed motors

Reduced internal friction and high flexibility are features of this double-ribbed V-belt for application to variable speed motors. Incorporated in Varidrive motors, the belts replace single-ribbed belts formerly used, and permit greater speeds and smaller pulley diameters in combination, plus increased horsepower ratings. Varibelts are constructed of synthetic rubber, built up in layers, and synthetic fiber cords. Made by **U. S. Electrical Motors Inc.**, Dept. NED, 200 E. Slauson Ave., Los Angeles 54, Calif.

▲ For more details circle **NED-352 G3** on enclosed inquiry slip ▲

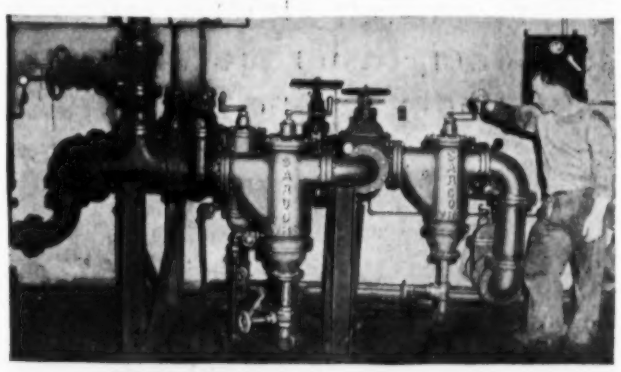
SMALL ROLLING MILLS built to exacting standards for laboratory or production use



Three and four-inch rolling mills which incorporate many features previously associated with only the heaviest equipment are now being built. Through the use of standard interchangeable parts units can be adapted to varying requirements without complete redesign. Rolls are furnished either flat or grooved to produce a multiplicity of shapes. A typical grooved roll in the 3-in. machine will produce square wire from under 0.040 to 0.250-in., and by mounting two 4-in. machines on a single base wire can be rolled from 0.750 down to 0.040-in.

Design features include housing cast in Meehanite, completely enclosed heavy bronze bearings and precision adjustments with micrometer dial readings. The 4-in. units are available with roller bearings and can be arranged for water cooling. Manufacturing applications include electronic tubes and wires, slide fasteners, tubular heating elements, optical parts and jewelry. Laboratories and research departments can use the mill to test the properties of such diversified materials as stainless steel, titanium and plastics, as well as new experimental alloys. Made by **Stanat Mfg. Co.**, 47-30 37th St., Long Island City 1, N. Y.

▲ For more details circle **NED-353 G3** on enclosed inquiry slip ▲



Strainer Screens kept clean automatically

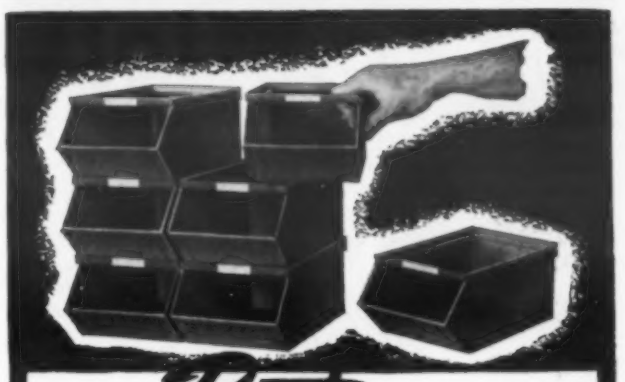
Unless the screens of pipeline strainers are frequently cleaned, they eventually clog. The production time lost by the shutdown to remove and clean the choked screen, and the labor involved, can be saved by installing Sarco Scraper Strainers, as illustrated. A few turns of the handle scrape the inside of the screen clean and assure continuous operation.

Our photo was taken at Monroe Paper Products Co., Detroit, where three 6" Sarco type VRS scraper strainers take care of river water.

For full information write for Bulletin 1225-4 to *Sarco Company, Inc., Empire State Bldg., New York 1, N. Y.*

Advt. 617

▲ For more details circle **NED-354 G3** on enclosed inquiry slip ▲



Parts...

★ **Where You Want Them . . .**
★ **When You Want Them**

You'll save time, space and labor handling parts and material when you use these patented STACKBINS.® STACKBINS keep parts instantly accessible—eliminate waste hand motions—stack compactly to form units of exactly the right shape and capacity—make order filling or assembly work faster, easier, more efficient. Heavy steel, all-welded construction. Sizes from 3½" x 6" x 3¼" to 15" x 24" x 11".

Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa

Write Stackbin Corp., 1081 Main Street, Pawtucket, R. I.

STACKBIN SYSTEM
"Stacked and Still Accessible"

▲ For more details circle **NED-355 G3** on enclosed inquiry slip ▲

ENGRAVING • PROFILING

for heavy production

with the Engravograph™®

Write for literature describing:

1. Heavy duty model Engravograph (as illustrated above) Catalog H 26
2. Portable model Engravograph Catalog 1M 26

NEW HERMES, Inc. Engravograph
13-19 University Pl, N. Y. 3, N. Y.
CANADA: 359 St. James St., Montreal
World's Largest Manufacturer of Portable Engraving Machines

▲ For more details circle **NED-356 G3** on enclosed inquiry slip ▲

Revolving turntable allows the operator to work all around the casting without stop for re-positioning . . . an addition to the standard Wolverine rectangular benches — Provides: • Better dust collection due to higher velocity. • New design, permitting exhaust outdoors where required, or return to room if desired. • Standard velocity, 300 feet per minute, and, if application requires, higher velocities available up to 800 feet per minute. • Ideal system for collecting dust from grinding, polishing and sanding operations.

Heavy duty industrial viscous filters in rear compartment remove dust from air stream and axial flow fan in top of rear compartment discharges vertically back into the room or outdoors if required.

Write for descriptive bulletin, Dept. N

WOLVERINE EQUIPMENT CO.
31 MAIN ST., CAMBRIDGE 42, MASS.

▲ For more details circle **NED-357 G3** on enclosed inquiry slip ▲

A new Irvington Class "B" Insulation--IRV-O-BESTOS®

Quinterra* asbestos and Mylar**—a tough, strong polyester film with the highest dielectric strength known—are bonded together in various thicknesses to form IRV-O-BESTOS, a new Class "B" insulation by Irvington.

Since Quinterra comes in thicknesses from .003" to .015", and Mylar from .0005" to .007", a very large number of combinations are available—in duplex constructions or in triplex with either Quinterra or the Mylar on the outside—depending on dielectric and cost requirements.

Write for technical data and samples on IRV-O-BESTOS.

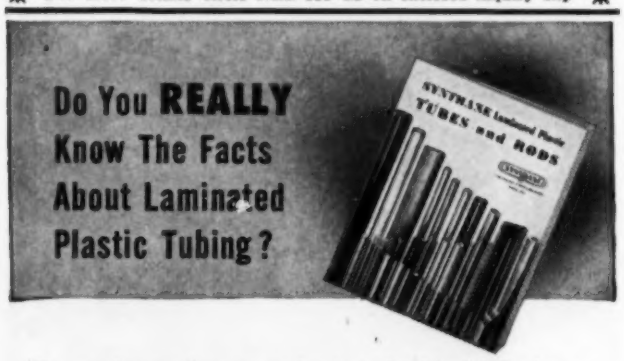
*Johns-Manville Corp. trademark **du Pont trademark

LOOK TO IRVINGTON FOR INSULATION LEADERSHIP

IRVINGTON
VARNISH & INSULATOR COMPANY
14 Argyle Terrace, Irvington 11, New Jersey

Plants: Irvington, N. J.; Monrovia, Calif.; Hamilton, Ontario, Canada

▲ For more details circle **NED-358 G3** on enclosed inquiry slip ▲



Do you know when to use laminated tubing? Whether to use "rolled" or "molded" tubes . . . which grade will best fit *your* application? Are you familiar with the variety of rods and tubular shapes—such as channels, angles, squares, ovals, polygons—which are available? Do you know that laminated plastic tubing is an excellent insulation, mechanically strong, tough, dense, light in weight, resists heat, water, corrosives, oils, solvents?

To get the answers to these and other questions you may have about laminated plastic tubing, use the coupon below for your copy of the SYNTHANE Tubing Catalog.

SYNTHANE

Manufacturers of laminated plastics
SHEETS
RODS • TUBES
MOLDED-LAMINATED
MOLDED-MACERATED
FABRICATED PARTS

SYNTHANE CORPORATION
N.E. River Road, Oaks, Pennsylvania

Gentlemen:
Please send me the SYNTHANE Tubing Catalog.

*Name*_____
*Address*_____
*City*_____ *Zone*____ *State*_____

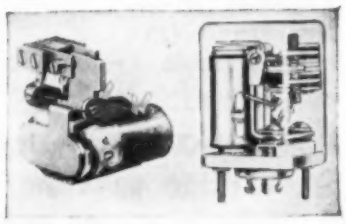
▲ For more details circle **NED-359 G3** on enclosed inquiry slip ▲

INTERVAL TIMER
hand wound model with alarm bell

Four-inch dial of the Solar interval timer reads in 1 to 10-minute intervals and is divided into 15-second intervals. The inner dial is divided into 10-minute intervals up to 120 minutes. Timer has a black face with white numerals and hands and a hand wound spring. Alarm bell rings at the end of the timed interval. Offered by **Burke & James, Inc.**, 311 S. Wabash Ave., Chicago 4, Ill.

▲ For more details circle **NED-360 G3** on enclosed inquiry slip ▲

SUPER-SENSITIVE RELAYS
developed for aircraft equipment

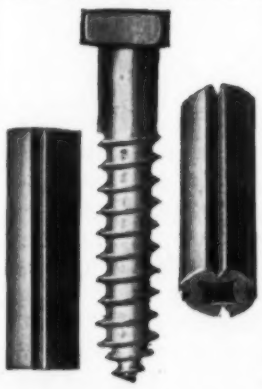


Operating on 10 mw or less with 10-G vibration resistance, the SS series of precision-built supersensitive relays has been developed for aircraft equipment. They are available in open and hermetically sealed types. Stable performance over a wide operating range is maintained by the beryllium copper torsion spring. Units are equipped with series-connected coils, and are available up to 60,000 ohms with maximum sensitivities of 1 to 2 mw. The open units have varnish-impregnated windings for moisture protection. Made by **Potter & Brumfield**, 270 N. Main St., Princeton, Ind.

▲ For more details circle **NED-361 G3** on enclosed inquiry slip ▲

LAG SCREW ANCHORS
holding power 2 tons in concrete

Made of ethyl cellulose plastic, two new anchors for use with ⅜-in., 7/16-in. and ½-in. lag screws or corresponding wood screws are suitable for indoor and outdoor use. UL tests show a holding power of 2 tons in concrete. They can be used in any material that can be drilled, and will withstand extremes in temperature, age, moisture, corrosion, shock and vibration, in addition to having good dielectric qualities. As a screw is driven into the anchor, it cold flows into every crevice of the drilled hole, giving a permanent trouble-free mounting.



Made by **Holub Industries, Inc.**, 411 DeKalb Ave., Sycamore, Ill.

▲ For more details circle **NED-362 G3** on enclosed inquiry slip ▲

Direct-casting Electric Furnace for better, faster precision investment casting

Melting position *Casting position*

The new, type IC, 12 kw., 10-lb. Detroit Electric Furnace melts and pours heats of chrome-nickel, Stellite or superalloy steels in 9-12 minutes. Casting is done by inverting the furnace, pouring directly into the investment mold which is held in place by air pressure. Melting by fast, controlled, indirect arc minimizes carbon pickup and alloy variation. Simple, efficient operation is ideal for high production of precision castings.

Write for complete information.

FEMA

DETROIT ELECTRIC FURNACE DIVISION
KUHLMAN ELECTRIC COMPANY
1060 26th St. • BAY CITY, MICHIGAN

Foreign Representatives: In BRAZIL—Equipamentos Industrias, "Elsa" Ltd., Sao Paulo; CHILE, ARGENTINA, PERU and VENEZUELA: M. Castellvi Inc., 150 Broadway, New York 7, N. Y.; MEXICO: Cia Proveedora de Industrias, Atenas 32-13, Apartado 27A3, Mexico 6, D. F., Mexico; EUROPE, ENGLAND: Birlec, Ltd., Birmingham.

▲ For more details circle **NED-363 G3** on enclosed inquiry slip ▲

LONGER Anode Life . . . With *Udylite* Ferrolum

Udylite Ferrolum Anodes are made with a STEEL core, clad with lead . . . the molecules of both metals are bound inseparably together. The anodes can't crack or peel no matter how they are bent or twisted. As a result, Ferrolum Anodes combine high, even electrical conductivity with the finest corrosion resistance . . . PLUS great rigidity and strength!

New Udylite Ferrolum Anodes offer exceptionally long life. That means long-range economy as well as low initial cost. They offer more uniform deposits too, with less build-up of insulating film and shorter plating time. Also, Udylite Ferrolum Anodes are much lighter in weight.

These new anodes are available in type I, Chemical Lead Clad, type II, Tin-Lead Clad, and type III, Antimonial Lead Clad.

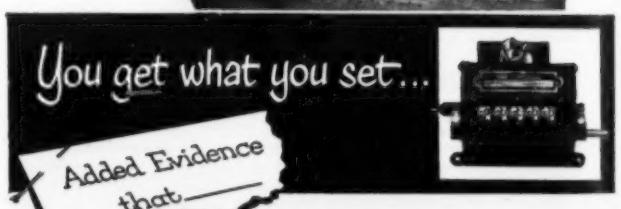
Get the full story on these NEW Udylite Ferrolum Anodes from your Udylite technical man today, or write direct. THE UDYLITE CORPORATION, DETROIT 11, MICHIGAN.

Check these Advantages —

1. Economical cost.
2. Better and more uniform conductivity.
3. Great rigidity and strength.
4. Lightness in weight.
5. Less build-up in insulating film.
6. Longer Life.

THE UDYLITE CORPORATION
DETROIT 11, MICHIGAN
PIONEER OF A BETTER WAY IN PLATING

▲ For more details circle **NED-364 G3** on enclosed inquiry slip ▲



Everyone Can Count on VEEDER-ROOT

Set the predetermining wheels for any run you want. Then, when the counting wheels reach the pre-set number, an electrical contactor makes or breaks the circuit to light a light, ring a bell, or trigger a stop-motion. Yes, this V-R Predetermining Counter is an efficient variable control for *many* types of stop-motion. Short runs and over-runs are prevented on a wide range of machinery, from coil winders to textile looms. Now, figure out how *you* can use this Cost-*Count*rolling Counter. Then write:

VEEDER-ROOT INCORPORATED
HARTFORD 2, CONN.

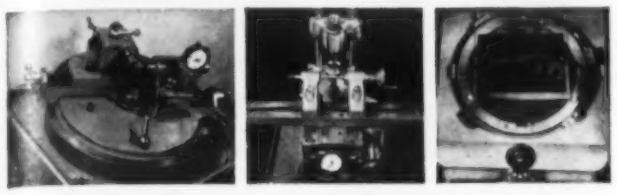
▲ For more details circle **NED-365 G3** on enclosed inquiry slip ▲

NEW CONCEPTS IN FINE-PITCH GEAR SUPPLY!

RYNEL

GEAR CHECKING LABORATORY

Controls Blanks To Finished-Gears



DESIGNERS AND SUPPLIERS
Electronic
Instrument
Communication
Navigation
Power Tool
and
Appliance
FINE-PITCH GEARS

Laboratory performance is a sure-check of gear tolerances and interchangeability. It provides you with a test run of the dependable operation and quality you expect in Rynel Gears. With complete control over blanks to finished gears, Rynel skilled inspectors check-out roll, bearing, concentricity, profile, lead and spacing to your exact requirements.

Specify Rynel Precision Fine-Pitch Gears for your motion requirements. Send Blueprints for estimates or design suggestions.

A Rynel Engineer will visit you the same day you call.

PHONE STERLING 4440

RYNEL CORPORATION

302 Miller Street • Sterling, Illinois
Chicago Office: 4730 N. Western Avenue
Telephone: LOngbeach 1-7111

Spur • Helical • Worm • Worm Gear • Internal
Segment • Sprocket • Ratchet • Straight Bevel

For more details circle NED-366 G3 on enclosed inquiry slip

TOOL of a THOUSAND USES

TRI-SAW, All-Purpose, Portable Power Hacksaw

Still the same low price. ONLY $37.50

Makes Any Cutting Job Quick . . . Easy . . . Economical

Simply attach Tri-Saw to any 1/4" or 5/16" heavy duty drill—then zip through wood, sheet metal, heavy metal, nails, pipe and what have you, in seconds! Use this sensational time and work saving tool and you'll say it's the best all-purpose saw on the market. Only Tri-Saw gives you these exceptional features:

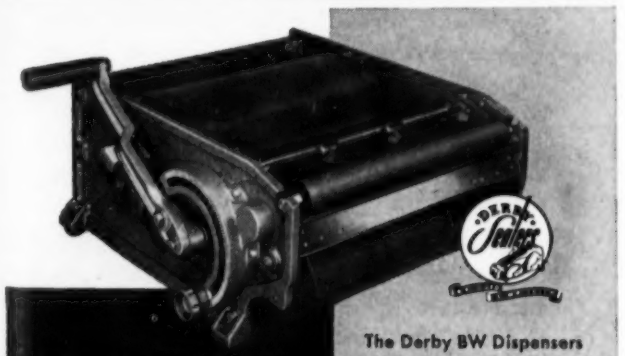
- No side torque or spin
- One shot lubrication
- Completely replaceable high speed bearings
- Improved dirt seal
- Needs no starting hole

ATTENTION JOBBERS AND DEALERS . . . Profitable opportunities for aggressive distributors. Write for details.

Send for free descriptive circular

MANUFACTURED BY
TRI-SAW CORPORATION
2207 HANLEY INDUSTRIAL COURT • ST. LOUIS 17, MISSOURI

For more details circle NED-367 G3 on enclosed inquiry slip



Do you use barrier wraps?
Then you need the new

DERBY BW BARRIER WRAP MEASURING DISPENSERS

The Derby BW Dispensers eliminate the slow, messy, expensive Barrier Wrap handling problem and provide a substantial saving in time, labor and material. Large rolls may be converted into the exact widths and lengths desired in one single operation.

Available in models to accommodate 4", 6", 8", 12" and 14" rolls and equipped with Universal Slitter to deliver a variety of desired widths and definite lengths.

For further information write Dept. NED

DERBY SEALERS, INC. DERBY, CONNECTICUT

For more details circle NED-368 G3 on enclosed inquiry slip

CONCRETE CUTTER
is portable engine-driven unit

Three-wheel model 135 concrete cutter has a 13.5-hp gasoline engine driving a standard 12-in. diamond blade which cuts up to 3½ in. deep, though blade diameters up to 18-in. OD can be accommodated. Hinged wheel guard can be lifted to permit instant close-quarter cutting. Slotted blade collars pick up the coolant, fed by external hose connection, and it is then thrown over both sides of the wheel face and rim by centrifugal force. This machine is suitable for trenching, patching, installation of utility poles and for cutting contraction joints, curbings, driveways and walks. Made by **Felker Mfg. Co.,** 1125 Border St., Torrance, Calif.

For more details circle NED-369 G3 on enclosed inquiry slip

RELIEF VALVES
automatic water-heater protection

Dangerous pressures and water temperatures are controlled by Econo-Therm automatic reseating pressure relief valves, which employ a thermostatic regulating device. The valves are AGA approved, and are available in either regular or stem type, with or without try levers. The regular valve is for ordinary hot water storage heater installation and the stem type for electric heaters, insulated tanks and installations where close nipples cannot be used. Standard factory relief setting is 125 psi, and standard temperature setting 208° F. Other settings may be specified when ordered. Made by **A. W. Cash Valve Mfg. Corp.,** 6624 E. Wabash Ave., Decatur 60, Ill.

For more details circle NED-370 G3 on enclosed inquiry slip

DO YOU KNOW? Just released for showing to engineering and industrial audiences is a 16-mm sound film showing the production of jet aircraft blades. Requiring 17 minutes running time, film shows the entire manufacturing operation from sinking of the forging dies through the various steps of precision forging, machining and final inspection. Produced in co-operation with the Carborundum Co., film can be obtained for showing by writing to Utica Drop Forge & Tool Corp., 2500 Whitesboro St., Utica 4, N. Y.

For more details circle NED-371 G3 on enclosed inquiry slip

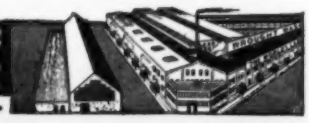
Geared to Industry's Production Demands Since 1887

MILWAUKEE WROT WASHERS

WASHERS STAMPINGS

Offering the most complete line of washers available today . . . all types and sizes, all materials, all finishes. More than 25,000 sets of dies. Let us quote on your requirements.

WROUGHT WASHER MANUFACTURING CO.
The World's Largest Producer of Washers
2256 S. BAY ST., MILWAUKEE 7, WIS.



A 7511-1/9

For more details circle NED-372 G3 on enclosed inquiry slip

OPW AUTOMATIC SHUT-OFF NOZZLES

MORE THAN 100,000 OWNERS AND USERS PROVE THESE FACTS:

- POSITIVE SHUT OFF
- NO OVERFLOW AT TOP DISCHARGE
- ELIMINATES FIRE HAZARDS AND PRODUCT LOSS
- LIGHTER BECAUSE OF ALUMINUM CONSTRUCTION
- CAN BE USED BY ANY INEXPERIENCED OPERATOR
- MINIMUM MAINTENANCE
- LEAKPROOF
- DURABLE

No. 1190

No. 1811

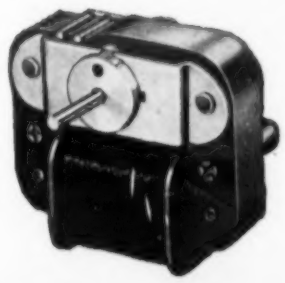
OPW CORPORATION
2735 Colerain Ave. Cincinnati 25, Ohio

For more details circle NED-373 G3 on enclosed inquiry slip

BARBER COLMAN

Barcol. Small Motors

Lamps cooled in TDC Projectors with Barcol Type DYAB Small Motor



Many things go on "behind the scenes" to make Three Dimension Company's "Vivid" Projectors bring color slides to life so sharply and brilliantly.

For example, the powerful lamp in each TDC Projector is properly cooled at all times to protect slides from excess heat and keep entire unit cool to touch.

To drive the cooling fan, Three Dimension Company selected the Barcol type DYAB motor specifically adapted by Barber-Colman engineers to meet TDC needs.

"Plus" features of this Barcol motor include generous oil reservoirs . . . porous bronze bearings . . . hardened and ground stainless steel shaft . . . low power consumption.

This TDC application again demonstrates how Barber-Colman engineers can help in solving a design-production problem with the *exact* motor for the job. If you have a project involving small motors, let Barber-Colman Company work it out with you.

FREE DATA SHEETS ON WIDE LINE OF SMALL MOTORS

The Barcol line includes unidirectional, synchronous, and reversible motors—up to 1/30 h.p. With and without reduction gearing—open or enclosed types. Expert engineering service available. Write for free data sheets.

BARBER-COLMAN COMPANY, DEPT. G, 1214 ROCK STREET, ROCKFORD, ILLINOIS

Small Motors • Automatic Controls • Industrial Instruments • Aircraft Controls • Air Distribution Products • OVERdoors and Operators • Molded Products • Metal Cutting Tools • Machine Tools • Textile Machinery

For more details circle NED-374 G3 on enclosed inquiry slip

For faster, simpler moisture measurements

The BECKMAN AQUAMETER

Get greater speed, accuracy, convenience in routine moisture analyses of alcohols, solvents, pharmaceuticals, antibiotics, and other products sold on controlled-moisture basis by using the Beckman Aquameter. Ideal for controlling process-operations where moisture is a key indication!

▸ **Simple, fully automatic** operation eliminates complex, time-consuming problems of other moisture-measurement techniques. Any number of sequential titrations can be completed automatically without re-setting or checking.

▸ **No highly-trained technicians** required. Even inexperienced operators obtain high-precision measurements (titrations reproducible to within ± 0.05 ml.) in minimum time.

▸ **Automatic titration feature** frees operator for other duties between readings (tabulating results, preparing samples, etc.), saving additional time and greatly boosting overall efficiency.

The Beckman Aquameter *applies a new principle to the "dead stop" technique of Karl Fischer methods recommended by U.S.P. It is rugged, dependable, trouble-free. See your nearest Beckman dealer for full details . . . or write for Data File No. 41-6.*

BECKMAN INSTRUMENTS control modern industries

BECKMAN INSTRUMENTS INC.
SOUTH PASADENA 1, CALIFORNIA
Factory Service Branches: Chicago-New York-Los Angeles

Beckman Instruments include: pH Meters and Electrodes — Spectrophotometers — Radioactivity Meters — Special Instruments

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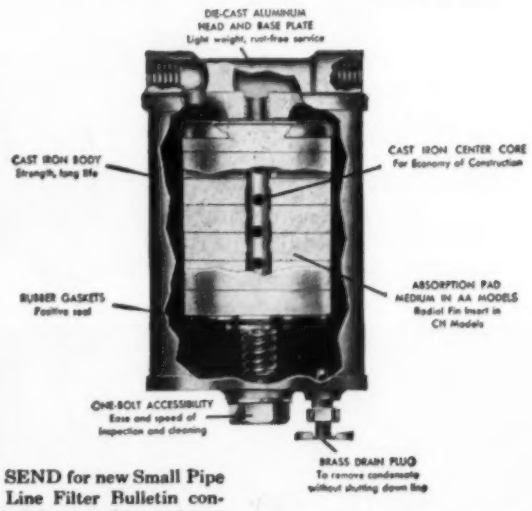
NEW.. STAYNEW

PIPE LINE FILTER Designed for Low Pressures up to 40 psi



SEND for new Small Pipe Line Filter Bulletin containing complete engineering and performance data.

REPRESENTATIVES IN PRINCIPAL CITIES

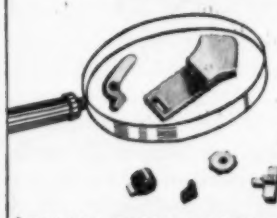
DOLLINGER STAYNEW FILTERS

DOLLINGER CORPORATION
3 Centre Park, Rochester 3, N. Y.

▲ For more details circle **NED-376 G3** on enclosed inquiry slip ▲

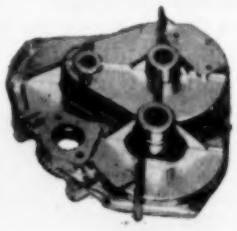
LOW COST PARTS

Specialized Equipment Cuts Costs Through All Commercial Sizes



DOLLIN
Zinc & Aluminum
DIE-CASTINGS

SMALL ZINC CASTINGS
1000 per lb. to 3 per lb.
Specialized high speed, automatic machines.



ALUMINUM CASTINGS
Cold chamber type, high pressure machines for all sizes.

LARGE ZINC CASTINGS
Large plunger type machines.

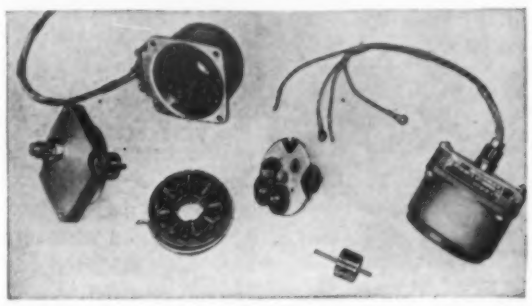
Send prints or samples for quotation. Engineering advice at no obligation.

DOLLIN CORPORATION 612 South 21st Street Irvington 11, New Jersey

▲ For more details circle **NED-377 G3** on enclosed inquiry slip ▲

BALANCING MOTOR
rated no-load speed is 333 rpm

Designed for electronic recording instruments, but applicable to other servomechanisms, remote control devices and measuring instruments, this reversible

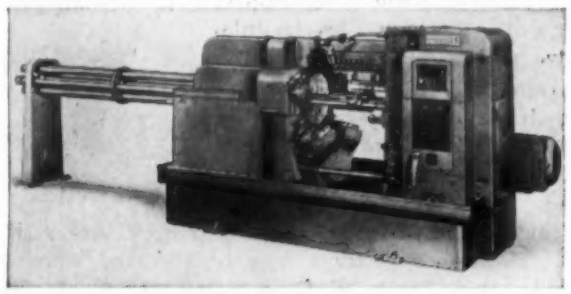


two-phase balancing motor has a rated no-load speed of 333 rpm. Motor has an air vent, self-lubrication and two ball bearings and one needle bearing. It is designed for use in temperature range from 20 to 175° F, draws about 13.5 w and operates on 115 v 60 cycles. Photo shows assembled motor and disassembled components—rotor, gear train and field assembly. Made by **Minneapolis-Honeywell Regulator Co.,** Industrial Div., Wayne & Roberts Aves., Philadelphia 44, Pa.

▲ For more details circle **NED-378 G3** on enclosed inquiry slip ▲

AUTOMATIC BAR MACHINES
six-spindle, variable speed units offered in 1¼ and ¾-in. sizes

Incorporated in 1¼ and ¾-in. automatic bar machines, which have the same rapid setup and working features of the company's larger machines, are



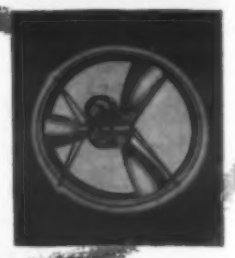
quadrant mechanism which eliminates changeable cams and elliptical-eccentric gears to power geneva indexing mechanism. Machines are equipped with six spindles and have a speed range of 255-2781 rpm in the 1¼-in. model and 372-4045 in the ¾-in. model.

Turning stroke is infinitely variable between 0 and 5 in., and maximum length that can be turned, with multiple cuts, is 8½ in. standard or up to 10 in. special. Bar feed stroke is infinitely variable up to 10 in. and the cross slide stroke between 0 and 13/16-in. Both machines are powered by 20 hp, 1750 rpm motor. Coolant capacity is 120 gallons. A continuous chip conveyor deposits chips in portable bin. Made by **Warner & Swasey Co.,** Dept. NED, 5701 Carnegie Ave., Cleveland 3, O.

▲ For more details circle **NED-379 G3** on enclosed inquiry slip ▲

▲ For more details circle **NED-380 G3** on enclosed inquiry slip ▲

HARTZELL Versatility pays off for Mittag & Volger



At the Park Ridge, N. J., plant of Mittag & Volger, Inc., manufacturers of carbon paper and inked ribbons, more than 20 Hartzell units are proving that it pays to rely on Hartzell for the *right* fan or blower to meet *any* industrial air-moving need.

Proof of Hartzell versatility? Look at the variety of the installations at Mittag & Volger. They include Lo-Noise fans (shown above) for quiet ventilation, prefabricated duct fans for ventilation of interior rooms, and roof ventilators and unit heaters.

Hartzell has been a leader for more than a quarter of a century because Hartzell concentrates on one objective—more efficient, more economical air-moving equipment for *industry.* Your nearby Hartzell field office puts this engineering "know-how" right in your back yard.

Send us the details of your air-moving problem today. (And ask for Catalog B-10 announcing the *new* Hartzell centrifugal blower line.)

HARTZELL propeller fan co.
Div. of Castle Hills Corp.
Dept. G, PIQUA, OHIO

ENGINEERING OFFICES IN PRINCIPAL CITIES

▲ For more details circle **NED-381 G3** on enclosed inquiry slip ▲

Free booklet tells how to save with adjustable voltage drives

With this practical booklet in hand, you have full information on the economy, convenience and versatility of Life-Line* AV Packaged Drives. You'll learn how these compact units provide on-the-spot power conversion thereby eliminating long runs and intricate networks of d-c feeders. The many other advantages gained from precise regulation of d-c motors from an a-c source are clearly presented.

One section describes how the AV Packaged Drive operates. It shows front, rear and side views and labels all standard components for easy identification. Also covered are construction features that assure long, dependable operation from your packaged drive.

Included are typical applications showing how AV Packaged Drives bring precise, versatile control to over-all industry.

For your free copy of AV-Drive booklet, B-5808, write to Westinghouse Electric Corporation, P.O. Box 868, Pittsburgh 30, Pennsylvania. J-21782

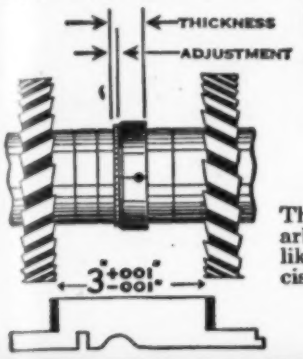
*Trade Mark

YOU CAN BE SURE... IF IT'S **Westinghouse**

▲ For more details circle **NED-382 G3** on enclosed inquiry slip ▲

SAVE TIME on GANG MILLING SET-UPS

Dayton Rogers *hardened and ground*, adjustable micrometer spacing collars are considered the last word on all types of milling machine set-ups for gang milling, straddle milling and similar operations. They are quickly and easily adjusted to the plus or minus positive adjustment. The collar is so designed that it gives the minimum over-all thickness with the maximum adjustment, graduated in .001"



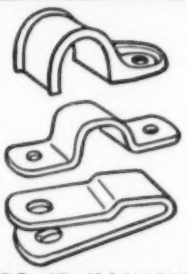
They are stocked for cutter arbors from 5/8" to 2". You'll like the speed, the precision, and the time saved!

Write Today For More Information!

DAYTON ROGERS *Manufacturing Company*
2829 13th AVE. S.
MINNEAPOLIS, MINNESOTA

▲ For more details circle **NED-383 G3** on enclosed inquiry slip ▲

TOUGH . . . Enduring



Safer, Simpler, faster, more secure. For cables, thin-wall tubing, wires, conduits, light hose. *No shorts! No tearing! No corrosion!* Wide variety shapes, styles, sizes and materials. Write today:

2818W. NORTH AVE. • CHICAGO 47, ILLINOIS

COMMERCIAL
PLASTICS CO.

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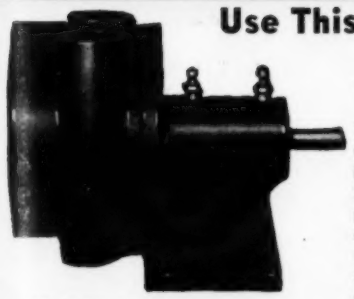
COOL TOOLS WORK BETTER, LONGER

COOL TOOLS BEST WITH "FULFLO" TRADE MARK REG. U.S. PAT. OFF.

CENTRIFUGAL COOLANT PUMPS



Use This Easy Way To Keep Tools Cool

1. Be sure you're using the right type of coolant.
2. Bring it to the right spot, pumped and circulated by the FULFLO PUMP designed for your purpose.

MODEL NOR
Right rotation
MODEL NOL
Left rotation
Direct connection
1600 to 2600 rpm;
8 gallons per minute at 1725 rpm.

Write on your letterhead for professional edition of FULFLO MECHANICAL DATA BOOK

FULFLO THE FULFLO SPECIALTIES CO. Inc.
BLANCHESTER, OHIO

▲ For more details circle **NED-385 G3** on enclosed inquiry slip ▲

ELECTRIC HOIST with "one-hand" rope control

Built with a weight-overload safety factor of five times the rated capacity, improved Zip-Lift electric hoist is operated by a "one-hand" rope control. Hoist will operate continuously during intermittent usage for a period 25 per cent longer than the rated time limit. Other features include double brakes, oil bath lubrication, enclosed construction and grease-packed motor bearings. Lifting capacities available are 500 and 1000 lb and hoisting rates are 25 and 13 fpm. Both models are offered with 12 and 18-ft lifts. Made by **Harnischfeger Corp.**, 4537 W. National Ave., Milwaukee 46, Wis.

▲ For more details circle **NED-386 G3** on enclosed inquiry slip ▲

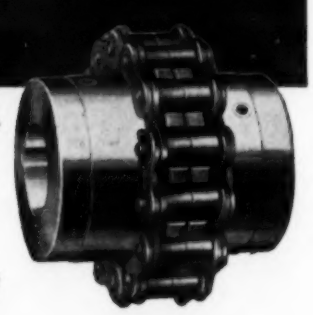
FLOW METERING INSTRUMENT for liquids, steam, air and gas

Flow of liquids, steam, air and gas through venturi tubes, nozzles and orifices as well as Kennison open nozzles, flumes and weirs are measured by model AFUAQ Flow-Watch instrument. A totalizing model with transmitter attachment can actuate a secondary instrument or pace a remotely located chemical feeder. A summation meter can also be operated from transmitting attachments in several individual Flow-Watch units to summate readings of number of meters. Totalizer reads directly in quantity units, and indicator scale and chart graduations have maximum readability throughout measuring range from 25 to 100 per cent of full scale. Made by **Builders-Providence, Inc.**, 425 Harris Ave., Providence 1, R. I.

▲ For more details circle **NED-387 G3** on enclosed inquiry slip ▲

Only LINK-BELT "RC" Flexible Couplings give all 3 advantages at low cost

1 Equalized load
2 Proper balance at high speeds
3 Effective compensation for end float and misalignment

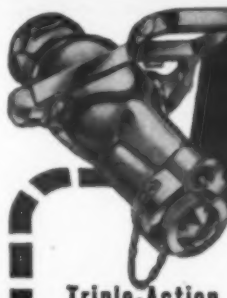


Link-Belt's exclusive design makes the difference. The simplicity of single-width chain is combined with divided rollers to give you top performance—plus economy. Specify Link-Belt Roller Chain Couplings for any rating from fractional to 1000 hp. Get all the facts from your Link-Belt representative or distributor, or write for Folder 2363. 13,210

LINK-BELT
"RC" Flexible Couplings

LINK-BELT COMPANY: Plants: Chicago, Indianapolis, Philadelphia, Colmar, Pa., Atlanta, Houston, Minneapolis, San Francisco, Los Angeles, Seattle, Toronto, Springs (S. Africa), Sydney (Australia). Sales Offices, Factory Branch Stores, Distributors in Principal Cities.

▲ For more details circle **NED-388 G3** on enclosed inquiry slip ▲



Fire-Fighting Equipment

Triple-Action Nozzle Discharges Water Three Different Ways To Cut Fire Losses

Rockwood SG-48 Nozzle discharges high-velocity WaterFOG, straight water stream or low-velocity WaterFOG . . . to help you put out fires faster in ordinary combustibles and flammable liquids.

Made of light-weight aluminum alloy, it's as easy to handle as it is versatile. It comes in 3/4", 1", 1 1/2", and 2 1/2" sizes to give you a choice of the following discharge ranges at 100 p.s.i. at the nozzle:

High-Velocity WaterFOG . . 20 to 30 feet
Straight Water Stream . . . 50 to 100 feet
Low-Velocity WaterFOG (through extension applicator) 10' to 22' diameter

Bulletin C501 gives you the whole story on Rockwood SG-48 Light-Weight Triple Action WaterFOG Nozzles. Write for your free copy today,

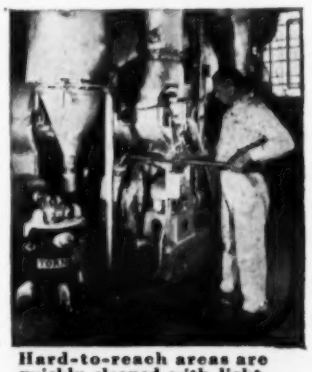
ROCKWOOD
ROCKWOOD SPRINKLER CO.
Engineers Water . . . to Cut Fire Losses
44 HARLOW STREET, WORCESTER 5, MASS.

▲ For more details circle **NED-389 G3** on enclosed inquiry slip ▲

The Richheimer Coffee Co. makes a practice of immaculate housekeeping. They have a constant problem because the paper thin hull, or "silver skin," that comes off the green coffee beans during roasting results in fine, dust-like chaff. Daily processing of tons of green coffee causes clouds of this chaff to settle on the floor and processing equipment.

Here is where Tornado, with air speeds above 300 m.p.h., goes to work to give their plant a "quick pick up." Easy to use accessory and floor tools clean hard-to-reach places on their equipment—get into corners and around machinery bases on the floor.

To beat a tough food processing problem or any other industrial housekeeping problem, follow the lead of hundreds of satisfied customers. Find out more about Tornado.



Hard-to-reach areas are quickly cleaned with light, efficient Tornado accessory tools.

WRITE FOR BULLETIN 600

BREUER ELECTRIC MFG. CO.
5116 North Ravenswood Avenue • Chicago 40, Illinois

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Automatic Air Circulator
COMFORT COOLING

The Wilster room air circulator creates a constant flow of natural draft-free air—for cooling in summer, and for even heat distribution in winter. The louver design insures even circulation to all parts of the room. A single unit circulates air completely every three minutes in 5000 cubic feet of space.

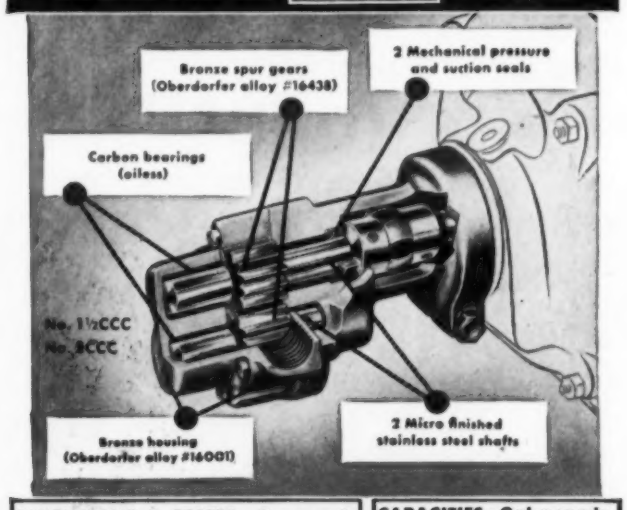
Automatic circulation thermostatically controls air flow without harmful drafts. Easily installed: simply hang it, and plug in.

Installations in offices, drafting roofs, factories, cafeterias, etc., are providing more comfortable year around working conditions. An inexpensive way of solving your air conditioning problems. WRITE NOW FOR A FOLDER.

WILSTER, INC.
1325 East 152nd St. East Cleveland 12, Ohio

▲ For more details circle NED-391 G3 on enclosed inquiry slip ▲

Two close coupled motor driven OBERDORFER BRONZE PUMPS



DIMENSIONS & PRICES—Pump only				
Pump No.	Ht.	Width	Lgth.	List Price
1½CCC	2⅞"	21 1/16"	4¾"	$20.00
2 CCC	31 1/16"	2⅜"	4⅞"	22.50

CAPACITIES—Gal. per min. 1725 rpm—lbs/sq.in.		
Press.	1½ CCC	2 CCC
0 lbs.	2.00 gal.	4.00 gal.
25 lbs.	1.83 gal.	3.67 gal.
50 lbs.	1.67 gal.	3.17 gal.
75 lbs.	1.58 gal.	2.83 gal.
100 lbs.	1.50 gal.	—

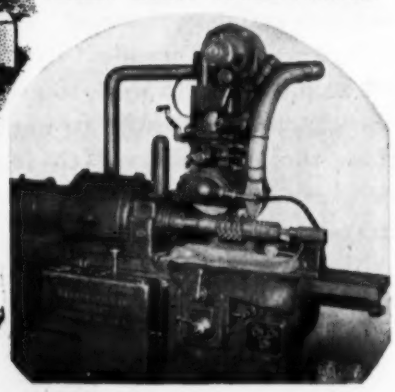
Complete units with ⅓ hp. 110 volt AC thermal overload motors (motor standard, but specially machined for pump mounting). Motor price $13.50 net.

See our catalog in Sweet's PRODUCT DESIGN File

Oberdorfer Foundries, Inc., Ind. Pump Div.
237 Thompson Rd. Syracuse, N. Y.

▲ For more details circle NED-392 G3 on enclosed inquiry slip ▲

They Make Their Presence Felt
TORIT DUST COLLECTORS



Here is the hidden Torit Dust Collector. Compact and self-contained it fits easily into present and future production layouts. Available in sizes up to 5 H.P.

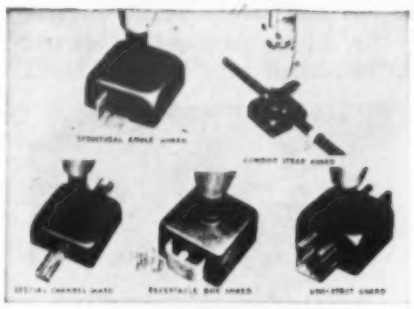
Completely hidden in unused space behind this hob grinder is a Torit Dust Collector, yet its presence is felt throughout the shop. The operator knows it's there because of the absence of irritating dusts. The inspector knows it because of fewer rejects. Even the front office feels its presence through higher production and better employee relations.

Banish the spectre of bad working conditions. Equip all dust-creating machines with Torit Dust Collectors. Wide range of models and sizes. Low original and operating costs. For full information write:

TORIT
MANUFACTURING CO.
298 Walnut Street St. Paul 2, Minn.

▲ For more details circle NED-393 G3 on enclosed inquiry slip ▲

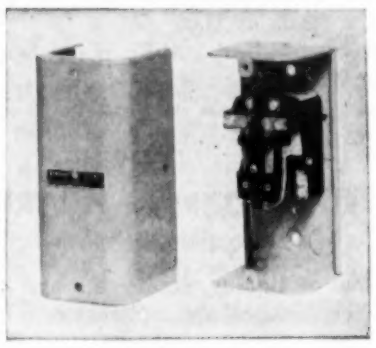
STUD DRIVER GUARDS
speed stud-driving operations



Designed for the model 450 Remington stud driver, line of special purpose guards which conform to the shape of special sections or fixtures to be anchored give full coverage of the work area and fast tool and fixture positioning. Typical units include guards for fastening conduit clips, lathing channel and Loxit channel. Each can be rotated a full 360°, so that the driver is always in a comfortable operating position regardless of the location of the fixture to be anchored. Made by **Remington Arms Co.**, 939 Barnum Ave., Bridgeport 2, Conn.

▲ For more details circle NED-394 G3 on enclosed inquiry slip ▲

GENERAL PURPOSE RELAYS
for control circuit applications



Long operating life and flexibility of application are features of CR2790-E general purpose relays. Braided shunt and repositioning of the shunt reduce tension and wear. Use of standardized open-form relays with conversion kits which can be stocked separately affords high utility and minimum of inventory. Conversion kits are available for metal and compound base back-mounting, base receptacle and relay jack-plug applications, and explosionproof enclosures for dust-tight and class 1, group D service. Relays are rated from 6 to 300 v; 60, 50 and 25 cycles plus direct current; and 10-amp continuous contact rating. Contact arrangements include double-pole single-throw, double-pole double-throw, and single-pole double-break. Made by **General Electric Co.**, Control Dept., Schenectady 5, N. Y.

▲ For more details circle NED-395 G3 on enclosed inquiry slip ▲

DO YOU KNOW? The patented Asarco process for the continuous casting of bronze rod, tubes and shapes is fully reviewed in two-part 30-minute color sound-slide film which is available for showing to interested industrial and engineering groups. The film is available free, and wherever possible, a lecturer will be provided. Full information available from American Smelting & Refining Co., Continuous Cast Products Dept., Barber, N. J.

▲ For more details circle NED-396 G3 on enclosed inquiry slip ▲

● You can obtain custom-cut felt parts from American, ready for assembly. Gaskets, washers, seals, wicks, discs — any shape you need, with tolerances to meet your specifications.

QUICK DELIVERY — American operates four strategically-located cutting shops at: Glenville, Conn., Detroit, Mich., Los Angeles and San Francisco, Calif. These deliver promptly.

QUALITY — American produces felt to exact specifications, uniform in density, blend, thickness, strength. We will cooperate with you in designing felt parts and specifying the right felt for commercial or government applications.

QUOTATIONS — Write to above address.

American Felt Company
TRADE MARK
GENERAL OFFICES:
62 GLENVILLE ROAD,
GLENVILLE, CONN.

▲ For more details circle NED-397 G3 on enclosed inquiry slip ▲

READY-POWER Adds 'GUTS' to Electric Truck Performance

The READY-POWER Co.
3832 Grand River Ave., Detroit 8, Michigan
Manufacturers of Gas and Diesel Engine-Driven Generators and Air Conditioning Units; Gas and Diesel-Electric Power Units for Industrial Trucks

▲ For more details circle NED-398 G3 on enclosed inquiry slip ▲

instruments for measuring light

Completely self-contained, permanently calibrated, and color corrected, Weston Light Measuring Instruments are available for practically all requirements in research, factory, office or home. A bulletin giving complete details on all models and on color and cosine correction features is available on request. WESTON Electrical Instrument Corporation, 614 Frelinghuysen Avenue, Newark 5, N. J.

Model 703
Sightmeter or Foot-Candle Meter
The favorite for quick measurements in homes, offices, factories, schools, etc. Calibrated in seeing tasks (Sightmeter) and directly in foot-candles. Available with or without VISCOR® and cosine correction filters.

Model 614 Foot-Candle Meter
Ideal for commercial lighting surveys and general light measurements. Hinge mounted PHOTRONIC® Cell can be tilted to facilitate use. Measures all types of commercial lighting directly. Wide range of light values, with convenient range-changing switch.

Model 756 Illumination Meter
For light measurements requiring a high degree of accuracy over broad ranges. Ideal for research work and for checking other instruments. Corrected for color and Lambert's Cosine Law . . . long mirror scale and knife-edge pointer . . . convenient range-changing switch . . . in sturdy leather case with neck strap.

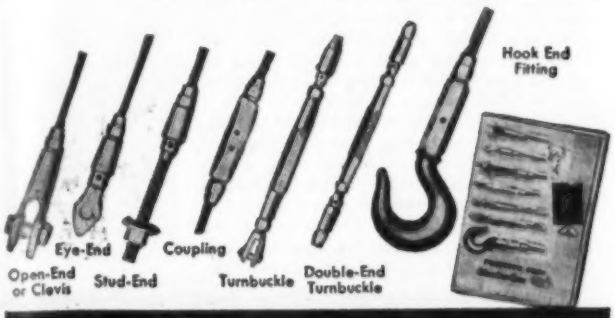
WESTON
Instruments

▲ For more details circle NED-399 G3 on enclosed inquiry slip ▲

Cut out needless re-roping costs

USE ELECTROLINE WIRE ROPE FITTINGS

In minutes, ordinary labor can install Electroline fittings that will hang on for all time. Prolong wire rope life by damping vibration stresses thus eliminating wire rope fatigue at the fitting. Write for Electroline Catalog. It points out many savings—no cost.



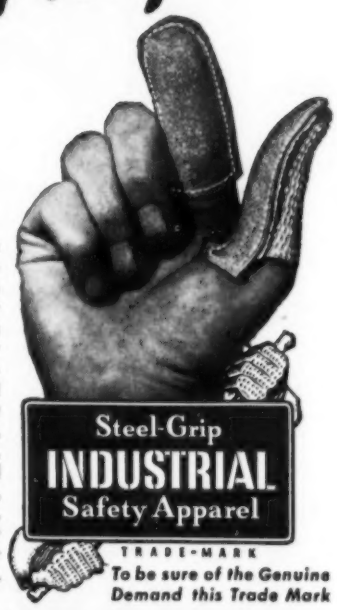
Electroline Company
4121 SOUTH LA SALLE STREET
CHICAGO 9, ILLINOIS
IN CANADA: POWERLITE DEVICES, LTD., TORONTO

For more details circle NED-400 G3 on enclosed inquiry slip

Save Fingers

With Steel-Grip Open End Finger Guards

Hundreds of factories save time and injuries and speed production by protecting workers with Steel-Grip Open End Finger Guards. Used for handling rough or sharp articles, for buffing, grinding, sanding, polishing, punch press work and hundreds of other jobs. Protect fingers or thumb, front or back, from cuts, abrasions or blisters. Various designs made in several leathers, and other materials, with elastic web back for snug, cool, comfortable fit. Sizes for men and women. Send 10c for sample. (U.S. PATENTS NO. 2,351,906—NO. 2,461,872)



Catalog of Industrial Safety Apparel free on request

INDUSTRIAL GLOVES COMPANY
A CORPORATION
1520 Garfield St., Danville, Illinois
IN CANADA: SAFETY SUPPLY CO., TORONTO
Famous Industrial Safeguards Since 1910

For more details circle NED-401 G3 on enclosed inquiry slip

ROLLAWAY SEMI-LIVE SKIDS AND JACKS

FEATURING THE RE-NU TOP

Steelbound Rollaway Skids combine the best features of bolted and welded designs. The frame supporting members are arc-welded, and the *renewable* hardwood deck is tightly clamped with steel bolts of extra tensile strength. Welded-in, heat-treated, steel connecting pin. Semi-steel rubber-tired or Flor-Savr wheels with Hyatt roller-bearings, heat-treated steel axles.

CAPACITIES: 1500, 2500, and 5000 POUNDS

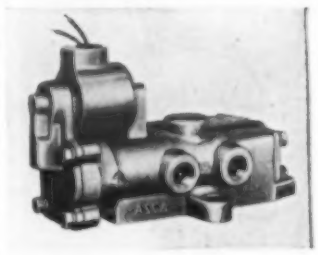
YALE AND TOWNE ROLLAWAY JACKS are stocked at the Lanham Company's plant and are sold and shipped directly from Louisville for use with ROLLAWAY SKIDS.

SECTIONAL BINS — RE-NU TOP SKID PLATFORMS — SKID BOXES

THE LANHAM COMPANY
Magnolia & 12th Sts., Louisville, Kentucky

For more details circle NED-402 G3 on enclosed inquiry slip

FOUR-WAY SOLENOID VALVE
replacing rear plate changes unit to five-way operation

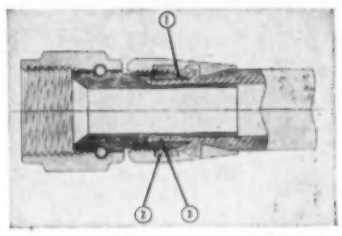


Merely replacing rear plate will change this four-way packless poppet solenoid valve to five-way operation. Valve operates at up to 750 cycles per minute intermittent duty and up to 500 cycles continuous duty with air or gas as medium. It will also operate on oil or water. Especially suited to exacting machine tool and press service applications, valve features bronze body; poppet type, beveled stainless steel seats and disks; guided, inserted seats (no threads); few moving parts; short stroke; and mill type construction.

Main valve is power operated in both directions. Unit mounts in any position, and connections can be made to front, rear and top, or brought into bottom for pad type mounting. Standard enclosure is watertight and explosionproof. Sizes are available for 3/8, 1/2, 3/4 and 1-in. pipe connection. Made by **Automatic Switch Co.**, 379-D Lakeside Ave., Orange, N. J.

For more details circle NED-403 G3 on enclosed inquiry slip

HOSE FITTING
for high temperature applications



Design of the Little Gem fitting for pneumatic and hydraulic hose reduces the compressive strain on the inner rubber or composition section of the hose tube, inhibiting flow of this material away from the compression zone even in high temperature applications. Only the reinforcing braid of the hose is clamped, while the fluid-tight seal is accomplished by separating the inner tube from the braid and using it as a "lip" seal in an annular chamber. Illustration shows (1) knife-like spur which automatically separates hose inner tube and reinforcing wire braid (2) reinforcing wire braid of the hose clamped between the nipple and the socket, and (3) hose inner tube seating in annular chamber to form a positive lip seal. **Aeroquip Corp.**, 303 S. East Ave., Jackson, Mich.

For more details circle NED-404 G3 on enclosed inquiry slip

DO YOU KNOW? In a recent test, two 4-in. diameter steel blocks were cemented together with Pliobond all-purpose adhesive and were able to support a load of 19,150 lb without separation of the bond. Pliobond is reported to be able to bond anything-to-anything. It's made by Goodyear Tire & Rubber Co., 1144 E. Market St., Akron 16, O.

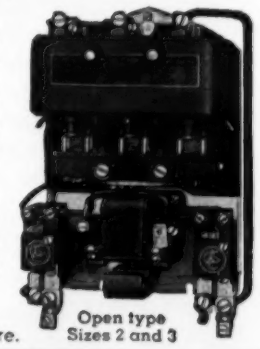
For more details circle NED-405 G3 on enclosed inquiry slip

NEW CLARK Type "CY"

AC MAGNETIC MOTOR STARTERS *now available in* EXPLOSION RESISTING ENCLOSURES

The sensational new CLARK Type "CY" motor starters are offered in a wide variety of types and enclosures for use in such industrial atmospheres as hazardous gas, dust or excessive humidity. Illustrated above, is the NEMA Type 7 Cast Iron Explosion Resisting Enclosure for conditions where such special protection is required.

CLARK Type "CY" starters, sizes 2 and 3, have an entirely new arc-quenching principle which greatly increases contact life, by a constant rotation of the arc on contact surfaces.



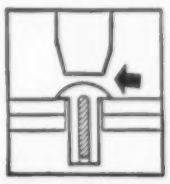
Open type Sizes 2 and 3

Write for descriptive literature.

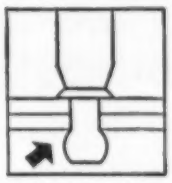
THE CLARK CONTROLLER CO.
ENGINEERED ELECTRICAL CONTROL · 1146 EAST 152ND STREET, CLEVELAND 10, OHIO

For more details circle NED-406 G3 on enclosed inquiry slip

Ideal for metal-to-metal fastening—
DU PONT EXPLOSIVE RIVETS
Easily fasten other materials, too!



1. Touch head of Explosive Rivet with heated Du Pont Riveting Iron. (Note tiny explosive charge in Rivet shank.)



2. Almost instantly . . . charge expands, forming a barrel-shaped head on shop end of Rivet that sets it in place.

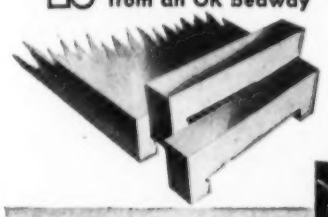
Fastening non-metallic parts to metallic can be a problem but isn't—*if* you're working with Du Pont Industrial Explosive Rivets! These Rivets make it easy for you to fasten plywood, fiberboard, leather and canvas to metals . . . and speed every job. You simply insert Rivet—set it—that's all! Du Pont's modern fasteners can be set rapidly (20-25 a minute) in almost any material . . . require no refinishing. Write for manual showing how Explosive Rivets simplify this type of fastening. *Contact nearest* Du Pont Refinish Service Warehouse, or E. I. du Pont de Nemours & Co. (Inc.), Explosives Dept., Wilmington 98, Delaware.

DU PONT *Hi-Speed* INDUSTRIAL EXPLOSIVE RIVETS
A Product of Du Pont Explosives Research

DU PONT — Better Things for Better Living . . . through Chemistry

For more details circle NED-407 G3 on enclosed inquiry slip

1. Taking a section from an OK bedway



2. Making it into a "tool bit"

3. Then cutting metal with it (1045 cold rolled steel)

The Gisholt Machine Co., Madison, Wisconsin, who use Ohio Knife bedways exclusively on their ram and saddle type Turret Lathes, made the above dramatic test for one of their customers. RESULT—another sale of a famous Gisholt Turret Lathe.

This super uniform hardness on the wear surfaces to a depth of 3/16" (64-66 Rockwell "C") is the reason why more and more OK ways, gibs, races, etc., are being specified on new equipment and used as replacements where former parts have failed. OK ways are practically wear proof assuring constant accuracy throughout the life of your machine. Enjoy with many prominent machine tool builders and users, the long wearing, supreme accuracy, super hardness of OK ways. Many sizes, shapes, etc., available, or made to your specifications.

OK wear strips are now available in welded Ampco bronze.

(Reg. U. S. Pat. Office by Ampco Metal Inc.)

Manufacturers for the Metal Working Industry of:

SLITTER KNIVES — SHEAR BLADES — ROTARY SHEAR KNIVES
HARDENED SPACERS — HARDENED WAYS — GIBS
BALL RACES — BRONZE WAYS — WEAR STRIPS

Write for comprehensive Bulletin to Dept. H

THE OHIO KNIFE CO.
CINCINNATI 23, OHIO

For more details circle NED-408 G3 on enclosed inquiry slip

Quick as a wink measure both AC and DC

WITH A COLUMBIA TONG TEST AMMETER

(Voltage attachment available)

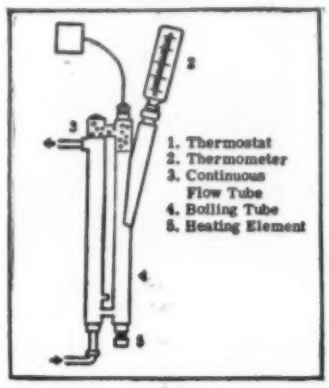
- Both AC and DC ampere readings are made instantly and accurately without breaking circuit or scraping insulation
- Operated with one hand by merely clamping tongs around conductor
- Cannot burn out
- Scale ranges up to 1000 amperes AC or DC
- Voltage attachment reads up to 600 volts
- Five types to accommodate cables up to 3⅞", bus bars up to 4½"x½"

Write for Tong Test Bulletin ND-400

COLUMBIA ELECTRIC MFG. CO.
4525 Hamilton Ave., Cleveland 14, Ohio

▲ For more details circle NED-409 G3 on enclosed inquiry slip ▲

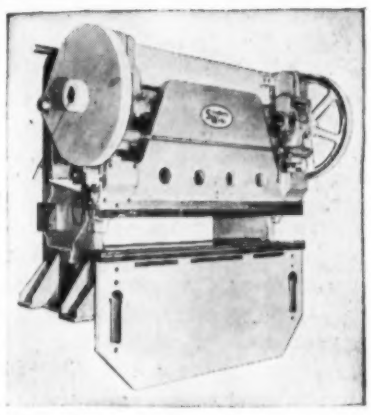
HUMIDITY CONTROL
for absorbent air conditioners



Control of moisture content or relative humidity in air conditioning supplied by liquid absorbent air conditioners is provided by this humidity control. Essentially a tube equipped with a heating element, instrument heats sample of absorbent liquid to its boiling point after it is reconcentrated on its return flow to the air conditioner. A thermostat with its sensing element in the tube is set at the boiling point desired. Thermostat operates the concentrator unit to furnish a greater or less concentration of the absorbent liquid, as called for by the thermostat setting. Control is extremely accurate and holds relative humidity of the conditioned air closely to desired amount. Made by **Niagara Blower Co.**, Dept. E. D., 405 Lexington Ave., New York 17, N. Y.

▲ For more details circle NED-411 G3 on enclosed inquiry slip ▲

PRESS BRAKE
ram of 400-ton unit can be stopped instantly at any point



Steel up to ¾-in. thick and 8 ft in width can be formed by model 400-PB-8 400-ton capacity press brake which features instant controlled stopping of ram at any point. Machine is provided with pneumatic clutch and separate brake, operating controls for cycling and inching, plus control for single work stroke with return of ram to "up" position. Design is such that force is exerted along centerline of side frame and directly down to bed on its supporting leg of frame.

Automatic force feed lubrication to all major points assures continuous operation. Motor drives flywheel through V-belts. Removable foot pedal and hand lever allow simple manual operation, and safety pins lock out controls to prevent accidental engagement of clutch. Other features are machined bed surfaces; extra heavy top cover for rigid tie-together of side frames; high speed gears of alloy steel; dry disk, low pressure clutch; and outside adjustable band type self-energizing brake. Made by **Struthers Wells Corp.**, Machinery Div., Titusville, Pa.

▲ For more details circle NED-412 G3 on enclosed inquiry slip ▲

FOR A FAST, FIRM TWINE TIE . . .

GERRARD'S
B.S.M. TWINE SEALER

Fully Automatic
SEALS WITH METAL

● Speed up the tying of light bundles and packages—and get a firmer, stronger bundle, too—by installing a Gerrard Twine Sealer in your shipping or mailing department.

Gerrard's new Twine Sealing Machine is fully automatic. Just put the bundle in place and step on the pedal. Then the twine is wrapped once around the bundle, drawn to a pre-set tension, fastened with a metal seal and cut. Additional ties can be made as quickly as the bundle can be moved into position. Bundles are limited to a 14" width and a 9" height.

The metal seal assures you of a firm, tight tie. Bundles stay neat and compact until the twine is cut. A reel from which 1500 metal seals will be formed can be put in the machine at one time.

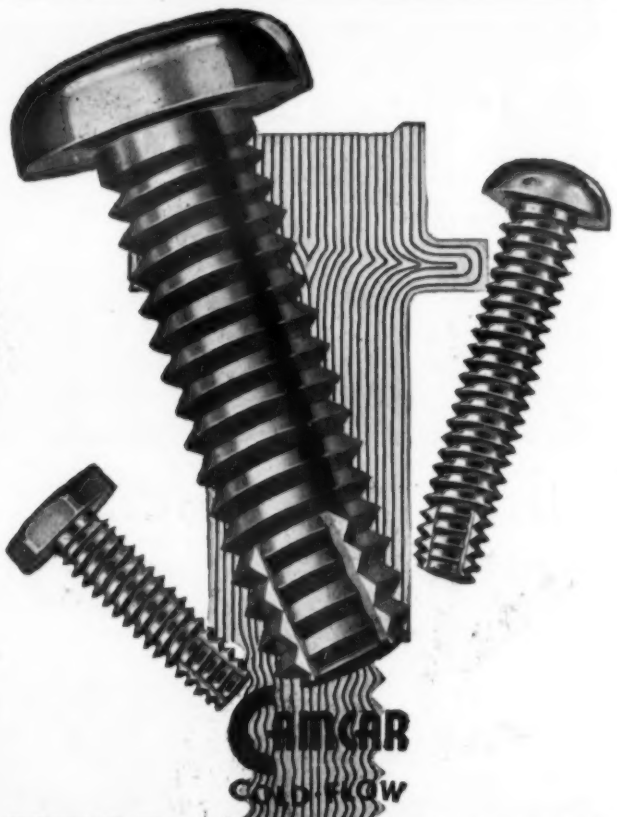
The Gerrard B.S.M. Twine Sealer can be accurately adjusted to accommodate the size of twine best fitted for your needs.

SEND FOR FREE B.S.M. FOLDER

Gerrard Steel Strapping Division, United States Steel Corporation
4717 South Richmond St., Chicago 32, Ill.

USS GERRARD STEEL STRAPPING
UNITED STATES STEEL

▲ For more details circle NED-414 G3 on enclosed inquiry slip ▲



TYPE F self-tapping screws

Camcar specialists have added the superior quality features of Cold-Flow processing to the time and cost-saving design of Type F Self-Tapping Screws.

The application of Cold-Flow techniques produces accuracy, tensile strength and clean dimensions to supply a stronger fastening through free-cutting, snug-fitting penetration.

Cold-Flow quality parts for Metal and Plastic Fastening applications are now available for your production with the same prompt service supplied on all Camcar Parts.

Monthly Stock List Mailed on Request . . .

U. S. Patents
2165009
2165010
2165011
2161610
2161611

THREAD CUTTING SCREWS
AIRCRAFT SCREWS
PHILLIPS
SEMS
SHEET METAL
SPECIALS

Telephone 5-9451 • Teletype RK 8653

CAMCAR SCREW & MFG., CORP.
601 Eighteenth Avenue • Rockford, Illinois

"PRODUCTION-DESIGNED FOR YOUR ASSEMBLY LINE"

▲ For more details circle NED-410 G3 on enclosed inquiry slip ▲

cut costs · clean efficiently

cold steam

✓no back splash
✓blasts stubborn dirt
✓harmless to finest finish

HYDRO·AIR PRESSURE WASHER $9.95

Connects to regular air and hot or cold water supply. Precise control of air and water blasts heavy dirt and grease or rinses sheets and small parts with a penetrating spray.

Order through your regular supplier of cleaning compounds, or direct.

widely used in these industries:
Air Craft
Automotive
Bakeries
Breweries
Cement
Ceramics
Cheese
Construction
Distilling
Electrical
Food Processing
Foundries
Jewelry
Leather
Meat Packing
Machine Shops
Marine
Mining Equipment
Oil & Refinery
Optical
Paper
Pharmaceutical
Public Utilities
Repair Services
Railroad
Rubber
Ship Building
Stone Polishing
Textile
Tobacco
Transportation

D & M PRODUCTS, INC.
30 North Raymond Avenue • Pasadena 1, California

▲ For more details circle NED-415 G3 on enclosed inquiry slip ▲

These compact, standardized, right angle drives are the ideal solution to space-restricted power transmission applications. They fit into the palm of your hand, yet are rated at 1/3 hp or 1 hp at 1800 rpm. Both models have antifriction bearings, hardened bevel gears, 2- or 3-way extensions. Both are lubricated for life. Write for literature and the name of your nearest distributor.

ANGLgears are sold exclusively through industrial distributors

AIRBORNE
ACCESSORIES CORPORATION
1414 Chestnut Avenue, Hillside 5, New Jersey

▲ For more details circle NED-413 G3 on enclosed inquiry slip ▲

NEW T-J

Spacemaker
AIR CYLINDERS

Saves up to 40% Space!

Streamlined construction of the new T-J Cylinders *eliminates tie rods . . . reduces head size . . .* and *saves up to 40% in mounting space!* In addition, a new high in strength is achieved with solid steel heads and heavy wall seamless steel body . . . leakproof construction . . . extra high safety factor. Cylinder walls are precision honed and hard chrome plated for long-life efficiency. Available with new T-J Super Cushion Flexible Seals. Many standard sizes and styles . . . cushioned and non-cushioned . . . for pushing, pulling, lifting, clamping or control jobs. Write for bulletin 8152. The Tomkins-Johnson Co., Jackson, Michigan.

37 YEARS EXPERIENCE T-J
TOMKINS-JOHNSON
VALVES · AIR AND HYDRAULIC CYLINDERS · CUTTERS · CLINCHERS

▲ For more details circle NED-416 G3 on enclosed inquiry slip ▲

CLOTH BAG DUST FILTERS
for individual machines

These complete, compact Sly "Unit" Dust Filters offer many economies in limited capacity ranges for the purpose of collecting dust from grinding, sanding, screening, mixing, pulverizing, packaging and finishing operations.

Often several of these units are employed in preference to a single large collector, for greater flexibility of operation, to save piping, and to keep different materials separate.

When you choose your dust collector be sure to get plenty of cloth for the air volume to be filtered. Never install a collector with less than a square foot of cloth for each four cubic feet of dust-laden air. Buy Sly—be safe.

Sly "Unit" Filters are engineered to assure long-time operating efficiency. Low cost, compact, easy to install. Made by **The W. W. Sly Manufacturing Co.**, 4748 Train Avenue, Cleveland 2, Ohio. There are experienced Sly engineers in New York, Chicago, Philadelphia, Syracuse, Detroit, Buffalo, Cincinnati, St. Louis, Minneapolis, Birmingham, Los Angeles, Toronto. Advt.

▲ For more details circle **NED-417 G3** on enclosed inquiry slip ▲

TOTE BOXES
open end stacking type

Available in eight standard sizes up to 22 x 12 x 8 in. and in a choice of 16 or 18-gage steel, this open end hopper box can be stacked for efficient parts storage. End of box opens for easy access to contents when used in assembly operations. Tote box is of welded construction. Made by **Platt & Labonia Co.**, 72 Broadway, North Haven, Conn.

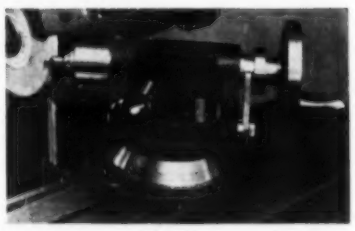
▲ For more details circle **NED-420 G3** on enclosed inquiry slip ▲

ABRASIVE BLADES
designed for masonry cutting

Cutting masonry at speeds approaching those possible with diamond blades, these wet cutting abrasive blades are available in correct specifications for every type of material. A typical performance figure is the cutting of a 2 x 5-in. Natco furring tile in 5 seconds. Features include precision dressing of blade edges at the factory, protection from fracturing due to over-tightening the blade collar and sturdy steel centers. Made by **Clipper Mfg. Co.**, Warwick at 28th St., Kansas City 8, Mo.

▲ For more details circle **NED-421 G3** on enclosed inquiry slip ▲

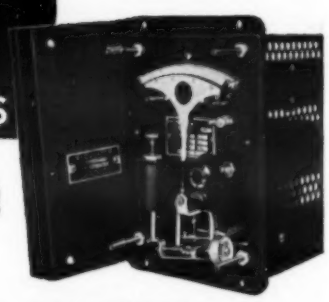
RELIEF GRINDING FIXTURE
for straight and angular grinding



End mills, spiral and straight flutes, countersinks, spot facers, center drills and reamers can be relief ground with the Studler fixture. Rocking head permits drawing the cutter or reamer away from the wheel for indexing and retracting the spindle. Tools are held in the spindle by collet bushings which range in size from ⅛ to ¾-in. and ¾ to 1 in. Special bushing has capacity up to 1¼ in. diameter. Two types of bases are offered, one being the hinged type for angular grinding. Both swivel into any position radially. Made by **S & D Engineering Co.**, Dept. NE, 525 Commercial St., Glendale 3, Calif.

▲ For more details circle **NED-422 G3** on enclosed inquiry slip ▲

Rocking Contact
V-00 & 221
VOLTAGE REGULATORS



Fast...Accurate Response
ON SMALL GENERATORS

Rocking Contact voltage regulators are available in two types for use on small ac generators with direct-connected exciters — TYPE V-00 for generators to 157 kva maximum at 3600 rpm; TYPE 221 for generators to 438 kva maximum at 3600 rpm.

Rocking Contact voltage regulators operate directly in the exciter field circuit to give fast response to voltage changes. No sluggish, time-wasting relays. No vibrating or sliding contacts to wear out. A small movement of the *Rocking Contact* sector over a curved commutator covers the entire regulating range

Write for Bulletin 14B6143A, Allis-Chalmers, Milwaukee 1, Wis.
A-4048

Rocking Contact is an Allis-Chalmers trademark.

Movement of a fraction of an inch changes the field resistance from "all out" to "all in" position in very fine steps.

ALLIS-CHALMERS

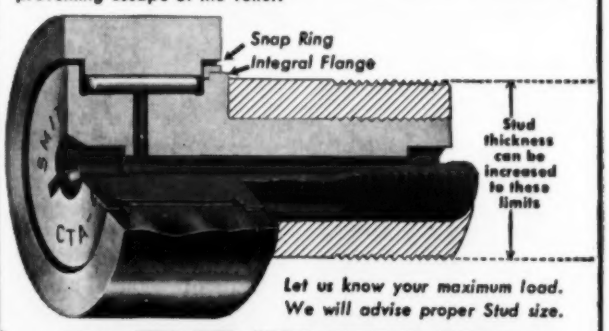
▲ For more details circle **NED-418 G3** on enclosed inquiry slip ▲

NOW It Can Be Made To Fit YOUR Need!

SMITH CAM FOLLOWER

with Stud any size required

Because the flange that holds the roller is a part of the Stud itself, it is possible to make the Stud diameter up to 100% greater in relation to the size of the roller. The advantage in carrying a heavy load is obvious. A snap ring fits firmly behind the flange preventing escape of the roller.



Let us know your maximum load. We will advise proper Stud size.

SMITH BEARING CO.
STATION D, P. O. BOX 1119, TRENTON, N. J.

▲ For more details circle **NED-419 G3** on enclosed inquiry slip ▲

SIMPLIFY **Your Shape-Cutting Jobs with the...**

OXWELD Automatic Tracer
Trade-Mark

- Positive templet contact... electronic steering control ... maximum tracing accuracy
- Templets are easy to make, low-cost
- No kerf allowance required in templet
- Dynamic braking prevents overruns
- Local or remote controls ...simple to operate

With an OXWELD Automatic Tracer to guide your oxygen-cutting machine, you need never forego the advantages of templet tracing because of time or cost. Just cut actual size templets out of thin plastic sheet with scissors—that's all! Tracer follows practically any templet shape within extremely close tolerances. Drive action is smooth and steady with both single- and multiple-blowpipe setups. Write today for free booklet F-8086.

LINDE AIR PRODUCTS COMPANY
A Division of Union Carbide and Carbon Corporation
30 East 42nd Street UCC New York 17, N. Y.
Offices in Other Principal Cities
In Canada: DOMINION OXYGEN COMPANY, LIMITED, Toronto

The term "Oxweld" is a registered trade-mark of Union Carbide and Carbon Corporation.

▲ For more details circle **NED-423 G3** on enclosed inquiry slip ▲

SPEEDY AIR VISE

SPEEDS UP ✓ MILLING ✓ PUNCHING ✓ DRILLING ✓ BENDING ✓ TAPPING ✓ RIVETING

GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

Speedy Air Vise helps you do dozens of operations faster, better, cheaper—by air pressure! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce *more!* Jaw opens up to 3 inches, holds castings, parts, jigs, etc. Compact and trouble-free.

Complete with Foot Control, Air Hose and Fittings.....only **$36.00**

Prompt Delivery from Your Supplier or Write Direct

W. R. BROWN CORPORATION • 2647 N. Normandy Ave. • Chicago 35, Ill.

AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

▲ For more details circle **NED-424 G3** on enclosed inquiry slip ▲

NOW—
THE LOWEST COST Dye Penetrant Inspection

Spotcheck
by **MAGNAFLUX**
Ends Guesswork Arguments!

Locates and marks cracks — seams — porosity — laps, etc. — when open to the surface . . . Use it on metals — carbides — plastics — ceramics or practically any other non-porous solid.

Brush—Dip—or Spray

Typical casting crack as revealed by Spotcheck in sampling or maintenance inspection.

CHECK THESE LOW PRICES

Quantity	Cleaner		Penetrant		Developer	
	Case Lots	One Can	Case Lots	One Can	Case Lots	One Can
12 oz. Pressure Can	(12 cans) $2.00 per can	$4.50 Each	(12 cans) $2.50 per can	$4.50 Each	—	—
Pint Cans	—	—	(12 cans) $2.25 per can	$4.00 Each	(12 cans) $2.00 per can	$4.00 Each
Quart Cans	—	—	(5 cans) $4.00 per can	$6.00 Each	(5 cans) $3.00 per can	$5.00 Each
1-Gal. Cans	(10 gallons) $2.50 per gal.	$3.00 each	(10 gallons) $14.00 per gal.	$15.00 each	(10 gal.) $8.50 per gal.	$9.00 each
5-Gal. Cans	(50 gallons or more) $2.00 per gal.	$2.50 per gal.	(50 gallons or more) $10.00 per gal.	$13.00 per gal	(50 gal. or more) $7.00 per gal.	$7.50 per gal

Also complete kits for HANDY SPRAY APPLICATION
$35.00 PLUS $1.00 shipping and handling

Eight assorted cans of Cleaner, Penetrant and Developer; accessories, instruction book and carrying case.

All prices f.o.b. Chicago, Illinois. Spotcheck Inspection requires application of Cleaner, Penetrant and Developer. Order quantity desired of each on your company purchase order.

FOR COMPLETE KIT—ORDER NOW

MAGNAFLUX CORPORATION
5916 W. Lawrence Ave., Chicago 31, Ill.

Please send.....Type SK-1 SPOTCHECK KITS at $35.00 each, plus $1.00 each, packing and shipping cost.

☐ CHECK ENCLOSED. Amount: $.....
☐ Send on our P. O. Number.....
☐ Send only FREE illustrated bulletin, now.

Name.....Title.....
Company.....
Address.....
City.....Zone.....State.....

Prices subject to applicable state or local sales tax.

▲ For more details circle **NED-425 G3** on enclosed inquiry slip ▲

EX-CELL-O HYDRAULIC POWER UNITS

For Special Purpose Machines

Ex-Cell-O Quill-Type Hydraulic Power Units provide a compact, flexible source of power for feeding, rotating and retracting cutting tools. They are especially suitable for automatic drilling, reaming counterboring operations. Three standard units are available—styles 28-A, 21 and 20, shown below. For full information send for Bulletin 45828.

53-9

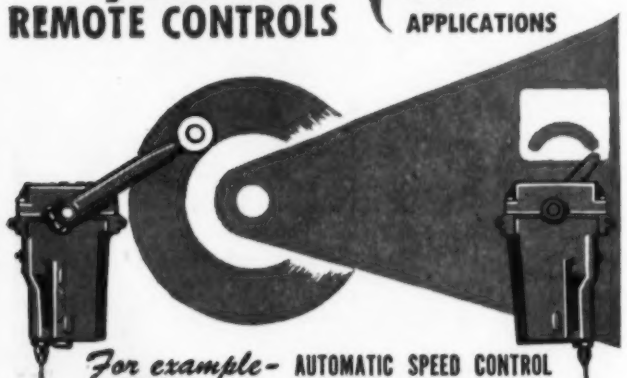
EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

▲ For more details circle NED-426 G3 on enclosed inquiry slip ▲

Sperry

Hydraulic REMOTE CONTROLS

FOR AUTOMOTIVE, RAILROAD, MARINE, MACHINE TOOL and COUNTLESS OTHER APPLICATIONS



For example- AUTOMATIC SPEED CONTROL for spools, wind-up drums and other similar devices compensates for increasing diameter of material. Adaptable to a wide variety of machines and products.

- POSITIVE, ACCURATE DUPLICATION of MOVEMENT
- COMPLETELY SELF-CONTAINED, INDEPENDENT
- SINGLE TUBE—EASY INSTALLATION • INSTANT RESPONSE • RUGGED and DEPENDABLE

WRITE NOW FOR COMPLETE INFORMATION or send prints and specs for special applications.

SPERRY PRODUCTS, INC.
1107 SHELTER ROCK ROAD,
Danbury, Connecticut
REPRESENTATIVES IN PRINCIPAL CITIES

▲ For more details circle NED-427 G3 on enclosed inquiry slip ▲

Now Better * than ever

FLEX-A-FOAM FILTER MASKS

For Safe, Economical Dust Protection

NEWLY designed for better-than-ever comfort and efficiency. It's easier to breathe through and talk through than an ordinary pocket handkerchief — yet filters nuisance dust particles as small as 1/25000 of an inch!

- **Economical** — Only Flex-a-Foam has long-lasting washable filter that outlasts throw-away type by more than 100 to 1. Filter savings alone more than pay total cost of mask.
- **Comfortable** — Self-adjusting to every face size. Can be worn with goggles or spectacles.
- **Simple** — Only four sturdy, long-lasting parts — all interlocking — all unconditionally guaranteed.

* *New frame design positively locks out air leaks, permits speedy removal of filter for cleaning.*

Dust Protection your workers will welcome and *Wear*

FLEX-A-FOAM® FILTER MASK

SAMPLE STILL ONLY $1.40 POSTPAID

THE GOGGLE PARTS COMPANY • CLEVELAND 13, OHIO

▲ For more details circle NED-428 G3 on enclosed inquiry slip ▲

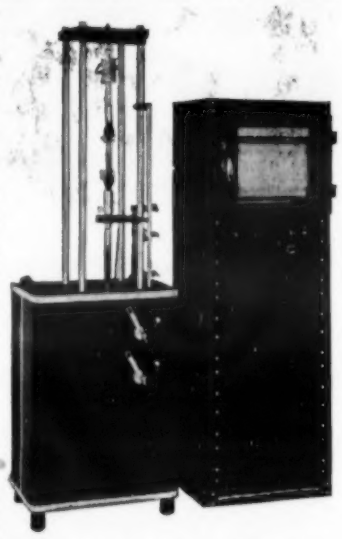
FIRST AID BURN KITS have anesthetic in spray dispenser

Automatic spray dispenser containing Americaine, a pain-killing burn treatment, is featured in both large and small size first aid burn kits. In addition to dispenser, standard large kit contains Americaine in form of greaseless, water soluble ointment. In both forms product is antiseptic, excludes air and kills pain almost instantly. Principal active ingredient is 20 per cent dissolved Benzocaine, a rapid local anesthetic. Dispenser quickly applies gentle coating to burned areas. Steel carrying cases have retractable hangers for wall mounting. Kits also contain an assortment of bandages and compresses. Made by **Davis Emergency Equipment Co.**, Safety Div., 73 Halleck St., Newark 4, N. J.

▲ For more details circle NED-429 G3 on enclosed inquiry slip ▲

TENSILE TESTER uses strain gage for measuring load

Full scale load ranges from 5 grams to 5000 lb are available on the model 49RC electro-hydraulic tensile tester. It has a rigid crosshead and uses strain gages for load measurements. Hydraulic drive system provides constant rates of elongation that are infinitely adjustable. Rates of extension from 0.1 to 20 ipm are standard but special ranges from 0.2 to 250 ipm are available. Automatic cycling between extension and/or load limits is available. Electronic recorder and control are in a separate cabinet that can be moved. Larger model 51RC is available for load ranges to 10,000 lb. Made by **Thwing-Albert Instrument Co.**, 5392 Pulaski Ave., Philadelphia 44, Pa.

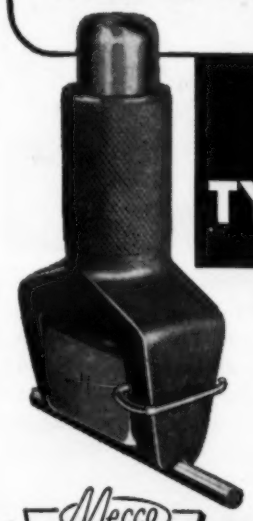


▲ For more details circle NED-430 G3 on enclosed inquiry slip ▲

DO YOU KNOW? The advantages of welding are clearly depicted in full-color strip film with sound accompaniment, entitled "Better, Faster, Cheaper With Welding." This 19-minute film shows welding procedures and actual case histories of savings in production, maintenance and salvage operations. To obtain this film for free showings, write Eutectic Welding Alloys Corp., Dept. P, 172nd St. & Northern Blvd., Flushing 58, New York.

▲ For more details circle NED-431 G3 on enclosed inquiry slip ▲

...FOR CLEAR CUT, EVEN MARKING ON ROUND OR FLAT PARTS OR PRODUCTS



MODEL SL
SLEEVE TYPE HOLDER

Two holders in one—the knurled outer sleeve assures positive grip and accurate positioning of inner steel type holder. Excellent for clear cut marking of small pipe, tubing, bars and flat parts or products.

Write for New Catalog 100.

Mecco SAFETY MARKING TOOLS

M.E.CUNNINGHAM CO.
1055 CHATEAU STREET, PITTSBURGH 33, PA.

▲ For more details circle NED-432 G3 on enclosed inquiry slip ▲

Wolverine

Heavy Duty QUICK ACTION TOGGLE CLAMPS

Extra CLEARANCE
Extra SPEED

Rugged construction—drop forgings, cast steel and solid bar stock.

• • •

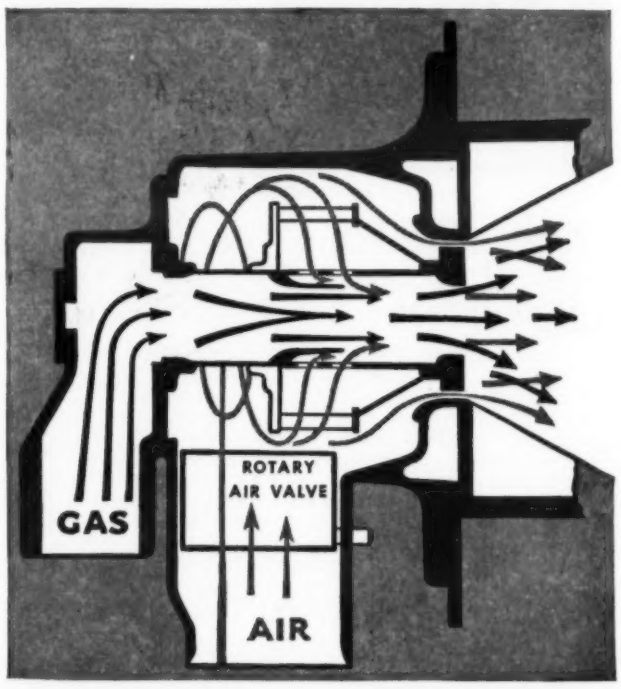
Wolverine Toggle Clamps also available in several types and sizes of Standard Action and Push Action units.

• • •

Wolverine Clamps are in use in almost every major industrial field and are specified by prominent engineering firms. Write for Bulletin.

WOLVERINE TOOL CO.
1482 E. WOODBRIDGE
DETROIT 7, MICHIGAN

▲ For more details circle NED-433 G3 on enclosed inquiry slip ▲



VORIFLOW® gas burner

. . . another cost-saving feature of

Powermaster®
PACKAGED AUTOMATIC BOILERS

- Keeps fuel cost DOWN and boiler efficiency UP.
- Infinitely variable combustion modulation responds instantly to load demands from 30% to 100% of firing capacity—*with full efficiency!*
- Immediate change-over to alternate fuels is provided with combination units.

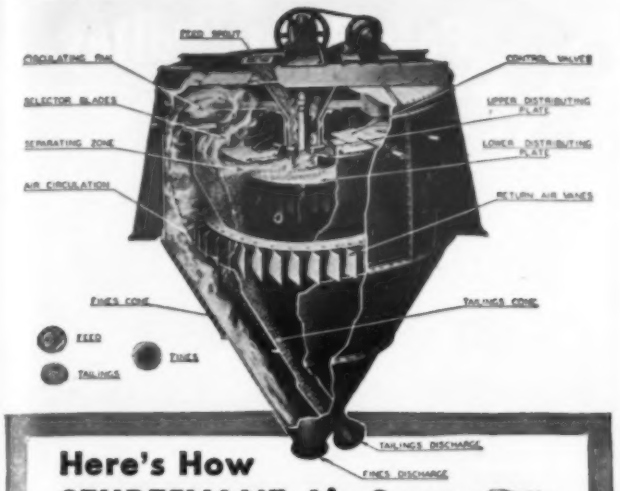
NEW BULLETIN . . .

describes and illustrates *all* cost-saving features of the Powermaster. Send for a copy of Bulletin 1219 today.

ORR & SEMBOWER, INC.
930 Morgantown Road, Reading, Penna.

BUILDERS OF COST-SAVING BOILERS SINCE 1885

▲ For more details circle NED-434 G3 on enclosed inquiry slip ▲



Here's How STURTEVANT Air Separators Increase Production of Fines ...Lower Production Costs

Sturtevant Air Separators effect production savings by increasing output by 25 to 300% . . . reducing power consumption by as much as 50%. They efficiently carry off all classified materials in any desired fineness from 40 to 325 mesh and finer . . . eliminate the need of screening in certain applications. Capacities available from ¼ to 50 tons per hr. *Write for full details, today.*

Sturtevant Mill Company
114 Clayton Street, Boston 22, Mass.

For more details circle NED-435 G3 on enclosed inquiry slip

STALE AIR increases your overhead

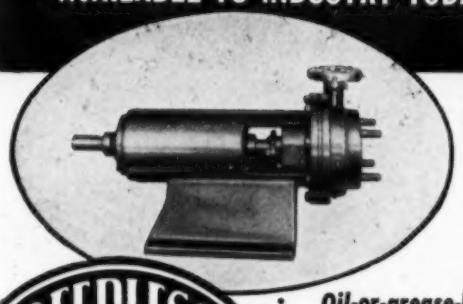
Eliminate this loss! Get a free bulletin that shows how to plan efficient exhaust fan installations, plus specifications of Emerson-Electric Exhaust Fans. Send today for Bulletin No. 728.

THE EMERSON ELECTRIC MFG. CO.
St. Louis 21, Mo.

EMERSON ELECTRIC
FANS • MOTORS APPLIANCES

For more details circle NED-436 G3 on enclosed inquiry slip

THIS IS ONE OF THE TRULY ALL-PURPOSE CHEMICAL HANDLING PUMPS AVAILABLE TO INDUSTRY TODAY



PEERLESS TYPE DS CHEMICAL PROCESS PUMP

PEERLESS PUMPS

Oil-or-grease-lubrication Rugged frame, case and liquid end

Write today for new Peerless Pump Bulletin No. B-1600. Completely describes the Type DS chemical process pump. Profusely illustrated with pump views, cutaway sections, elevations and dimensional data and performance characteristics.

SOME TYPE DS CHARACTERISTICS:
OPEN OR ENCLOSED IMPELLER DESIGN • COMPLETE RANGE OF SIZES 1"-6" • HEADS—UP TO 231 FEET • LIQUID END CAN BE OF ANY ALLOY

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION

Los Angeles 31, California and Indianapolis 8, Indiana
Offices: New York, Chicago, St. Louis, Atlanta; Dallas, Plainview and Lubbock, Texas; Fresno, Los Angeles; Phoenix; Albuquerque, N. M.; Tulsa

For more details circle NED-437 G3 on enclosed inquiry slip

POTENTIOMETER KIT aids in experimental set-ups

Comprised of "unitized" type RVC2 potentiometers, mounting plates, clamp rings and servo-calculator, Potentiometer kit B extends maximum flexibility in "breadboarding" to experimental laboratories. Single or ganged potentiometers can be prepared as required. In addition to one 360-degree potentiometer, the other 14 instruments in the kit are linear, provided with three taps equally spaced along the winding so that, in effect, the winding comprises four equal sections. With shunt resistors properly connected across the taps, these four sections can be used to simulate nonlinear functions. Servo-calculator makes computations simple and rapid. Made by **Servotrol Co.**, Dept. N, Framingham Centre, Mass.

For more details circle NED-438 G3 on enclosed inquiry slip

MONOCHROMATIC LIGHT for optical flat inspection

Built with a 20-in. diameter high intensity light source, the Monolight monochromatic light generator speeds checking of large parts or large numbers of small parts for surface flatness, finish, dimension, etc. It also facilitates use of up to 10-in. diameter optical flats. Work height capacity of unit is 24 in. and work table size is 30 x 30 in. Unit supplies monochromatic light of 20 foot-candles intensity as measured on the work surface. Light source can be swung in 160-degree arc from side to side. Made by **DoALL Co.**, 256 N. Laurel Ave., Des Plaines, Ill.

For more details circle NED-439 G3 on enclosed inquiry slip

DO YOU KNOW? Lamb's wool rollers of the type you used to refinish that living room wall are even more practical for refinishing chain link fences. And there's a considerable saving in time and paint. Recognizing these economies, the maker of Fence-Bond is offering free two rollers and two lamb's wool covers with each order of 50 gallons of this rust preventing finish for fences. If you're interested, just write to Skybryte Co., 3125-6 Perkins Ave., Cleveland 14, O.

For more details circle NED-440 G3 on enclosed inquiry slip

STUCK LATELY? BIN

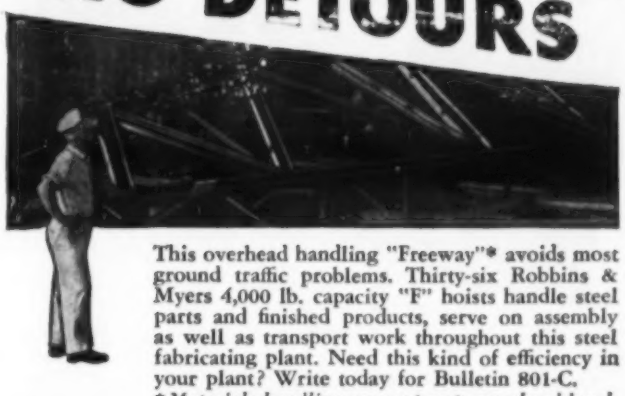
"Mister, if you're turning your plant upside down to loosen up your bins and hoppers, stop right now and install a CLEVELAND Vibrator. It's a quick, efficient answer to your problem."

Loosen it Up— WITH A CLEVELAND AIR VIBRATOR
LITERATURE ON REQUEST

THE CLEVELAND VIBRATOR CO.
2744 Clinton Avenue • Cleveland 13, Ohio

For more details circle NED-441 G3 on enclosed inquiry slip

NO DETOURS

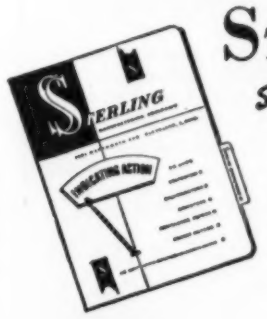


This overhead handling "Freeway"* avoids most ground traffic problems. Thirty-six Robbins & Myers 4,000 lb. capacity "F" hoists handle steel parts and finished products, serve on assembly as well as transport work throughout this steel fabricating plant. Need this kind of efficiency in your plant? Write today for Bulletin 801-C.
**Materials handling on a separate overhead level.*

TAKE IT UP WITH
ROBBINS & MYERS INC
MOTORS HOISTS CRANES FANS MOYNO PUMPS
HOIST AND CRANE DIVISION, SPRINGFIELD 99, OHIO

For more details circle NED-442 G3 on enclosed inquiry slip

● You can design new interest, provide more information, create appealing movement and put sell action to work with Sterling indicating meters. Just think of the possibilities they suggest—as directional meters such as are used on television antenna rotors, or as ammeters, voltmeters, etc. But don't stop there—you can have shape, size, color, finish and almost any form you might need for your adaptation—you might even be dreaming up a toy, gadget, or atomic whatsit to which electrical or mechanical indicating action will give unusual appeal. One fact you'll want to know is that Sterling meters are moderate in cost—actually inexpensive when you consider their great sales value. Want to do some exploring? We'll be glad to help.



STERLING IDEAS
SEE THEM NOW!

This file folder is chock-full of information on Sterling meter models (A.C. and D.C. Panel, Resistance, Pocket in Ammeters, Voltmeters, etc.) plus examples of specially designed indicating meters for interesting applications. Send for your copy today.

STERLING
MANUFACTURING COMPANY
7201 Wentworth Ave.
CLEVELAND 2, OHIO

For more details circle NED-443 G3 on enclosed inquiry slip

FLEXAUST* HOSE CUTS COST 5 WAYS

Highly Flexible Airtight Ducting
. . . For Moving Air, Gases, Materials
Via Pressure, Suction, Gravity

NEW CATALOG No. 35 SHOWS HOW FLEXAUST HOSE:

- **Saves labor** because Flexaust hose bends sharply without kinking or flattening, is easy to install.
- **Assures long life** with its excellent resistance to moisture, acids, abrasion.
- **Gives trouble-free service** because of its spiral-wire reinforced, double-ply construction and Neoprene coating.
- **Has many applications** in virtually every industry.
- **Custom-made accessories** are produced for unusual or special applications. *Trade-mark

Sizes: 1¼" ID to 28" ID
Varied types, coatings and fittings

Write for your free copy.

AMERICAN VENTILATING HOSE CO.
Dept. NE-7 • 100 Park Avenue
New York 17, N. Y.

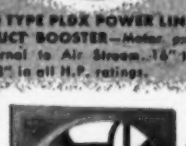
▲ For more details circle **NED-444 G3** on enclosed inquiry slip ▲

FOR HAZARDOUS LOCATIONS USE—

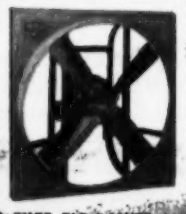
CHELSEA EXPLOSION-PROOF FANS

THE ABC OF SAFETY—
Always Buy Chelsea!

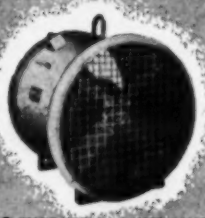
Performance-proven CHELSEA explosion-proof fans meet rigid ventilating and exhaust specifications to the letter. For hazardous locations, specify CHELSEA type fans supplied with Class I, Group D motors, and non-ferrous, non-sparking propellers. Ask CHELSEA for recommendations for your particular processing or industrial need—address Dept. K 7.



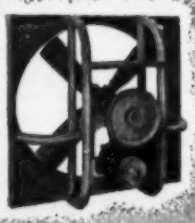
● TYPE PLDX POWER LINE DUCT BOOSTER—Motor external to Air Stream. 16" to 48" in all H.P. ratings.



● TYPE PLP POWER LINE DIRECT DRIVE — 16" to 48" in all H.P. ratings. Square frames for easy installation.

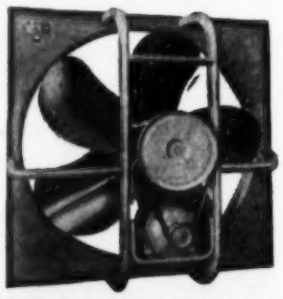


● TYPE PLDU POWER LINE AIR BLASTER—For spot cooling — available on pedestal 18" to 42" in all H.P. rating.



● TYPE PLBD POWER LINE BELT DRIVEN — 24" to 48" in all H.P. ratings. Square frames for easy installation.

Type IND Industrial Fan
for general ventilating and comfort cooling in factories, foundries, plants, mills, laboratories, etc.



● Belt Driven ● Streamlined Orifice ● Precision Balanced Blades ● Ball Bearing Equipped Motor and Shaft. All Steel Welded Construction

Chelsea Type IND is a heavy duty fan recommended for general industrial service. Flexible and efficient, it is capable of moving large volumes of air.

Look for this Seal of Certified Ratings
Look for this Symbol of Quality

CHELSEA FAN & BLOWER CO., Inc.
PLAINFIELD, NEW JERSEY

▲ For more details circle **NED-445 G3** on enclosed inquiry slip ▲

FORK LIFT TRUCK
gasoline-electric handler has no clutch or gear shift

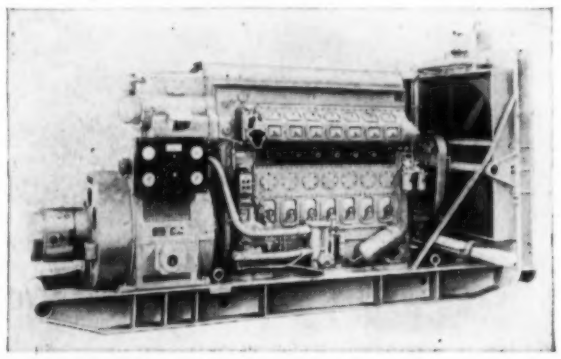
Built with a transmission system that requires no clutch or gear shift, the Gas-O-Matic fork lift truck uses a gasoline engine, variable-voltage generator and an electric motor as its power system. Generator is an integral assembly with the engine connected to the drive shaft. As engine speed increases, voltage output builds up in a smooth curve pattern.

Travel speed is controlled by foot pressure on the accelerator and travel direction by "forward" and "reverse" foot buttons, leaving operator's hands free for steering, lifting and tilting functions. Using a Hercules engine, the truck is economical in gas consumption and features smooth "inching" control. The 4000-lb capacity model is 123 in. long, 39 in. wide and has a standard lift of 83/130 in. Made by **Baker-Raulang Co.**, Baker Industrial Truck Div., 1245 W. 80th St., Cleveland 2, O.

▲ For more details circle **NED-446 G3** on enclosed inquiry slip ▲

OPPOSED-PISTON DIESEL
designed for heavy-duty applications

More compact and weighing less than conventional heavy-duty engines, this opposed-piston diesel engine is designed to fill needs in stationary power plants,

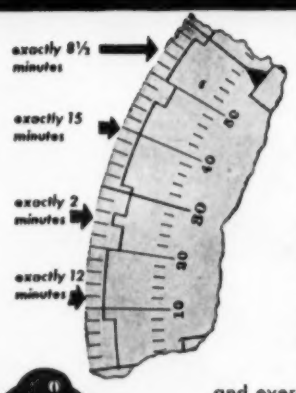


marine and railroad markets for engines in the 225 to 750 hp range. Model 38F5¼ develops a continuous-duty rating of 75 hp per cylinder at 1200 rpm and weighs 7100 lb with a rating of 225 hp. All necessary pumps, heat exchangers, filters and other auxiliaries are incorporated in the units. The engine can be equipped for dual-fuel and spark-ignition gas operation. Made by **Fairbanks, Morse & Co.**, 606 S. Michigan Ave., Chicago 5, Ill.

▲ For more details circle **NED-447 G3** on enclosed inquiry slip ▲

NO MORE GUESSWORK!

PROCESS TIMING
automatically recorded by a Little "TIME CLOCK"



"The cure must be 8½ minutes"—"the heat must be applied exactly 15 minutes"—"the plating must take just 2 minutes"—"the pigment must be mixed just 12 minutes"—etc.

The *Servis Recorder* checks on this—it records just what happened—it "*times the process.*" You are no longer in the dark; from now on you know all day and every day whether your *process timing* is lived up to—or if somebody slipped—if something went wrong to ruin your product for that afternoon, or that whole shift! Write for Process Timing Catalog. The Service Recorder Co., 1375 Euclid Avenue, Cleveland 15, Ohio.

Bolt this 2 lb. Recorder right to the machine itself; Let the "Process" record itself on the chart —(No ink, no pencil, no wires; the record is recorded in wax).

The Servis Recorder
The "Time Clock" for Machinery

▲ For more details circle **NED-448 G3** on enclosed inquiry slip ▲

S-W Belt Saver Pulleys

SINCE 1866

. . . Protect Expensive Belts

For rough service installations . . . for the handling of hard, abrasive materials—always specify the S-W 'BELT-SAVER'.

Its special wing and cone design and its self-cleaning action assure longer belt-life and reduced maintenance costs.

The 'BELT-SAVER' pulley is exclusive with Sprout-Waldron, along with a complete line of standard and special cast iron pulleys.

Write for Bulletin 35-A today! Sprout-Waldron & Co., 8 Logan St., Muncy, Pa.

Vertical Mixers, Attrition Mills, Rotary Feeders, Ribbon Type Mixers, Crushers, Knife Cutters, Continuous Mixers, Roller Mills, Separators, Pulleys

198

SPROUT-WALDRON

▲ For more details circle **NED-449 G3** on enclosed inquiry slip ▲

Over 33% greater capacity for the same size

McGILL GUIDEROL® bearings

Guiderol CT Series Bearings have over 33% greater load carrying capacity than the average of the four highest rated interchangeable roller bearings. The guided roller method eliminates capacity wasting cages and prevents roller skewing in critical applications demanding capacity speed, rigidity and close operating tolerances.

Send for McGill Catalog No. 52

McGILL® precision bearings

McGILL MANUFACTURING CO., INC. 101 N. Lafayette St. Valparaiso, Indiana

▲ For more details circle **NED-450 G3** on enclosed inquiry slip ▲

CUTTING PADS

203C

Made of tough, "self-healing" TYGON plastic, COLONIAL Cutting Pads—

1. Reduce die wear and breakage,
2. Lessen rejects from double cutting due to "bounce back",
3. Increase production through quiet, less fatiguing operation.

Long wearing, dustless, and usable on both sides, COLONIAL Cutting Pads are widely used in machine, or hand cutting of rubber, leather, plastics, cork, candy, paper, fibre, felt cloth, foils, or light gauge metals.

Available in 5 standard sizes: 20"x20"x⅜", 18"x36"x¾", 18"x36"x1", 20"x40"x¾", 20"x40"x1". Generous credit given for return, after full use.

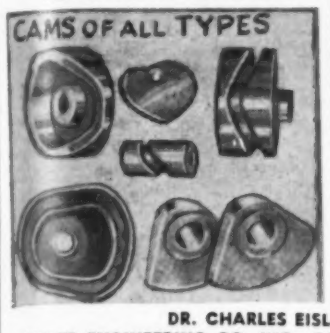
Write, today, for full information and prices!

COLONIAL RUBBER CO.
RAVENNA, OHIO

▲ For more details circle **NED-451 G3** on enclosed inquiry slip ▲

TURNTABLES AND POSITIONERS over 100 different types for welding, brazing, soldering, spraying, glass insulator melting and glass glazing, with rotating stations and indexing with barrel cam or geneva gear action. For work transferring, tilting positions, motorized or hand operated. Rotating tables of all kinds for over 33 years. Many types made by EISLER. We supply any part or complete equipment and we make special turntables to your order. Write for catalog.

CAMS
MADE TO YOUR SPECS.



DR. CHARLES EISLER, M. E., PRES.
EISLER ENGINEERING CO. INC., 740 S. 13TH ST., NEWARK 3, N. J.

▲ For more details circle **NED-452 G3** on enclosed inquiry slip ▲

LOW COST POWER TRANSMISSION

Line-O-Power Drives—Straight line and right angle (horizontal and vertical) units. Vertical available for extended output shafts.

Foote Bros.-Louis Allis Gearmotors—17 sizes with output speeds from 7.5 to 780 r.p.m. and capacities of 1 to 150 h.p.

Maxi-Power Helical Gear Drives—42 sizes available in this heavy-duty line. Ratios 2.08 up to 360 to 1, capacities up to 1550 h.p.

Hygrade Worm Gear Drives—Horizontal and vertical types. Hytop vertical accommodates long, unsupported output shafts.

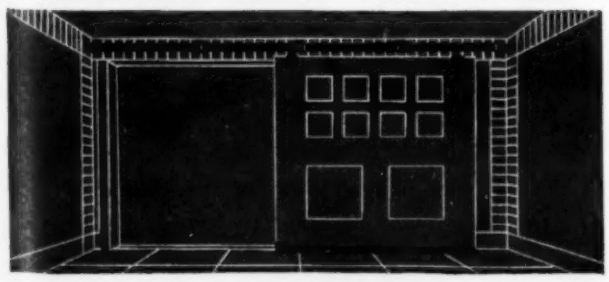
WRITE FOR BULLETINS
LPB—*Line-O-Power Drives*
GMA—*Foote Bros.-Louis Allis Gearmotors*
HGB—*Hygrade Worm Gear Drives*
MPB—*Maxi-Power Helical Gear Drives*

FOOTE BROS.
FOOTE BROS. GEAR AND MACHINE CORPORATION
4545 S. WESTERN BOULEVARD CHICAGO 9, ILLINOIS

▲ For more details circle **NED-453 G3** on enclosed inquiry slip ▲

COBURN

SLIDING DOOR HARDWARE



. . . LOW INSTALLATION COST
. . . SMOOTH, EASY OPERATION
. . . LONG, TROUBLE-FREE LIFE
. . . ADAPTABLE FOR BOTH NEW AND REMODELING JOBS

Sliding door hardware for industrial applications of all types: Straight-sliding, sliding-folding, around-the-corner, roundhouse and fire doors.

For additional information write to Sales & Engineering, 56 Sterling St., Clinton, Mass. or consult your classified telephone directory.

THE COLORADO FUEL & IRON CORPORATION—Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION—Oakland, California
WICKWIRE SPENCER STEEL DIVISION—Clinton, Massachusetts

COBURN PRODUCTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL & IRON CORPORATION
CF&I

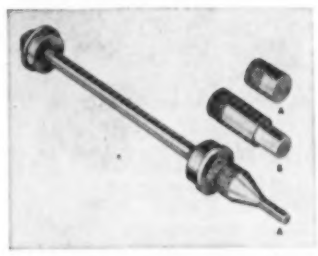
▲ For more details circle **NED-454 G3** on enclosed inquiry slip ▲

VIBRATORY FEEDER
handles from 1 to 2 tons per hour

With a maximum feeding capacity of 2 tons per hour, model FO-1 electromagnetic vibratory feeder is designed for bulk materials handling. All action is confined to easily replaceable leaf springs. Feeding speed is infinitely variable, and is rheostat controlled. The unit weighs 48 lb, and is furnished ready for installation with own controller. Made by **Syntron Co.**, 405 Lexington Ave., Homer City, Pa.

▲ For more details circle **NED-455 G3** on enclosed inquiry slip ▲

COLLET STOP
speeds second operation work



Accurate duplication of shoulder lengths is possible with this collet stop, which always locates work in the collet at the same position. The stop is held immovable in the lathe spindle whether or not the collet has an indeterminate endwise location. Settings and adjustments are made from the rear of the spindle with a screwdriver, without disturbing either stop or collet. Practically the full collet length may be used to hold work. Diagram shows (A) the two solid pads furnished for different work diameters and (B) the spring pad which ejects work as soon as the collet is opened. Made by **Wade Tool Co.**, 39 River St., Waltham, Mass.

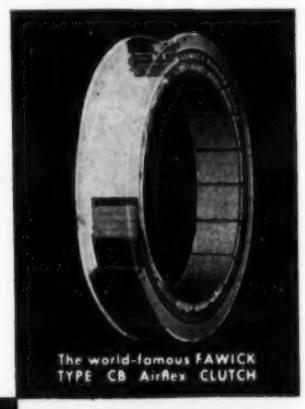
▲ For more details circle **NED-456 G3** on enclosed inquiry slip ▲

PIPE TOOL DRIVE
portable unit handles 1/8 to 2-in. pipe

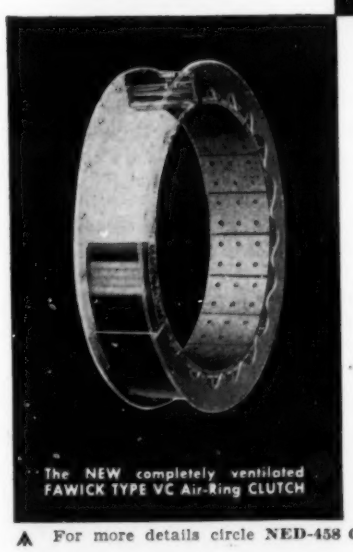
An aluminum housing and chuck give the model D power pipe drive an approximate weight of 100 lb, light enough to be fully portable. Unit has a heavy duty 1/8 to 2-in. chuck, enclosed gears running in oil and a weatherproof motor. Large side-openings double as motor ventilators and hand grips for moving. It can be used easily on bench, truck, or with pipe legs on the job location. Made by **Beaver Pipe Tools, Inc.**, 310 Dana St. N. E., Warren, O.

▲ For more details circle **NED-457 G3** on enclosed inquiry slip ▲

FAWICK GIVES YOU YOUR CHOICE!



The world-famous FAWICK TYPE CB Airflex CLUTCH



The NEW completely ventilated FAWICK TYPE VC Air-Ring CLUTCH

Exclusive VC CLUTCH design features: cooler operation; riveted, replaceable lining; loose, expanding operating tube easily replaced without removing clutch from shaft.

The new FAWICK VC CLUTCH is unmatched in heavy-duty service for high-starting load and sustained slippage conditions. Its cooler operation provides "new clutch" performance throughout a long maintenance-free life.

Write for Bulletins 400-A and ML-102.

FAWICK AIRFLEX DIVISION
FEDERAL FAWICK CORPORATION
9515 CLINTON RD., CLEVELAND 11, O.

FAWICK Airflex
INDUSTRIAL CLUTCHES AND BRAKES

▲ For more details circle **NED-458 G3** on enclosed inquiry slip ▲

---

space saving HV FILTER has longer life greater efficiency

today's best buy is better air!

AAF's new High Velocity filter handles the same air volume in 1/3 the space of standard unit filters. It operates effectively at velocities from 300 to 500 fpm and maintains uniform efficiency over this wide range of velocities. It's the exclusive *pyramid pocket* filtering media that makes the difference!

The H-V's low resistance, large dust capacity and longer life make it a superior unit for limited space conditions.

Available in all standard sizes and 1", 2" and 4" depths. Engineering Bulletin #203 gives complete information and technical data. Write for it today.

AAF American Air Filter
COMPANY, INC.
391 Central Avenue, Louisville 8, Ky.
American Air Filter of Canada, Ltd., Montreal, P. Q.

▲ For more details circle **NED-459 G3** on enclosed inquiry slip ▲

HIGH VACUUM PUMP USERS:

END WATER VAPOR TROUBLE

NRC Rotary Gas Ballast Pump—Model NRC 100M — a 2-stage pump unit

- **Maintains fast pump down time**
- **Eliminates oil reclaiming units**
- **Provides greater capacity under 1 mm Hg**
- **Requires up to 80% less oil charge**
- **Capacities from 1¼ cfm to 400 cfm**
- **Pressures down to 10^{-4} mm Hg**

This is important news for every user of rotary vacuum pumps. At last, an "anti-water-vapor" pump that does not blank off at increasing pressures because it is trying to pump condensable vapors.

Water vapor is no problem to the new National Research Rotary Gas Ballast Pump. It operates on a principle that *prevents* the water vapor from condensing and contaminating the pump oil.

The pump is available in capacities from 1¼ cfm to 400 cfm; pressures down to 10^{-4} mm Hg; a full line of vane, piston-type and 2-stage pumps.

Send in the coupon today for your copy of the new bulletin that gives a full explanation of the Gas Ballast principle and complete engineering data on the construction and operation of the NRC Rotary Gas Ballast Pumps.

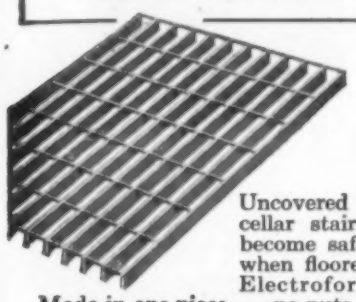
NRC
National Research Corporation
EQUIPMENT DIVISION, *70 Memorial Drive, Cambridge, Mass.*

Send me more facts about the NRC Rotary Gas Ballast Pump ☐ Have your Salesman call ☐

Name _____
Title _____
Company _____
Address _____

▲ For more details circle **NED-460 G3** on enclosed inquiry slip ▲

Make those **OPEN SPACES**
SAFE and USABLE
with this unique, one-piece
OPEN STEEL FLOORING



SILENT! STRONG! SECURE!

Uncovered pits, light wells, cellar stairways, etc. quickly become safe and usable areas when floored with Blaw-Knox Electroforged Steel Grating. Made in one piece . . . no nuts or bolts to rattle or lose. Provides safe footing even when wet or greasy and lasts indefinitely. Admits maximum light and air. Furnished in any shape, cut to fit. Just send dimensional sketch of area to be covered and we will forward price by return mail.

BLAW-KNOX COMPANY, *Grating Department*
BLAW-KNOX EQUIPMENT DIVISION
2068 Farmers Bank Building, Pittsburgh 22, Pa.

ELECTROFORGED® STEEL
BLAW-KNOX GRATING

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WHEN BINS BECOME BOTTLENECKS... YOU NEED
SPO AIR VIBRATORS

Don't let arching, bridging and clogging bottleneck your production . . . keep materials flowing from bins, hoppers and chutes with SPO air vibrators. These low-cost units deliver powerful hammer-like blows which eliminate jamming of powdered and granular materials.

Exclusive feature of SPO air vibrators is a special corrosion-proof bronze alloy cylinder liner which assures full-power start, high-speed operation, low air consumption and maximum service life. 1222-S1

Write today for Bulletin 50.

SPO INCORPORATED
6475 GRAND DIVISION AVE. • CLEVELAND 25, OHIO

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Bulletin 609 Manual Starters

- Silver alloy contacts need no maintenance
- Generous wiring space in white interior

An Allen-Bradley Bulletin 609 across-the-line starter saves maintenance time on any machine. Contacts never need cleaning, filing, or dressing—they're always ready for action. Strongly built for years and years of trouble-free operation. Thermal breakers provide reliable motor overload protection. Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wisconsin.

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

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WET GRINDING UNIT
no splash guards are needed

Toolroom grinders can be adapted to wet grinding with this portable Cool Grinding unit, which has a self-contained cabinet housing the coolant reservoir and motor compressor. An atomized spray of rust-resisting rapidly-evaporating coolant, pressure-controlled by a valve on the cabinet, is directed at the point of contact between grinding wheel and work, preventing splattering and eliminating need for guards. Any water-soluble commercial coolant can be used. Made by **Reid Brothers Co.,** Beverly, Mass.

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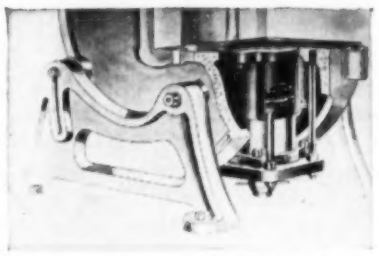
PNEUMATIC DIE CUSHION
designed for inclinable presses



Model DB full universal pneumatic die cushion is a self-contained unit for use with or without surge tank, designed for application on inclinable presses. An internal guiding arrangement compensates for off-center loading of the pin pressure pad or wear plate. Combination reducing regulating valve and pressure gage assures constant work pressure on the pin pressure pad at all times. Cushions are made in eight sizes from 5 to 18 in., producing ring-holding pressures of 1 through 14 tons on 100-lb air line pressure. Use can be on all deep drawing operations, most forming dies and for bolster plate mounting. Made by **Dayton Rogers Mfg. Co.,** 2822 Thirteenth Ave. S., Minneapolis 7, Minn.

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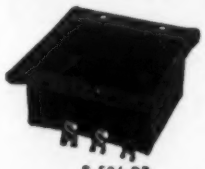
DO YOU KNOW? It's a simple matter to keep an accurate record of photographic negatives when they are filed in Watson plastic envelopes. These durable transparent protectors take up to 2¼ x 3¼-in. negatives and have a matte finished strip along one edge which can be legibly written upon with pen or pencil to record the contents of the envelope. Envelopes are priced at $12.50 per 1000, but a generous free sample of them will be sent upon request by Burke & James, Inc., 311 S. Wabash Ave., Chicago 4, Ill.

▲ For more details circle NED-466 G3 on enclosed inquiry slip ▲

For **HEAVY DUTY WORK!**
Severest Electrical Services

P-506-CE—Plug with Cap



S-506-DB
Socket with deep Bracket

JONES PLUGS & SOCKETS
500 SERIES
Proven Quality!

For 5,000 Volts, 25 Amperes per Contact Alterable by circuit Characteristics.

Socket contacts of phosphor bronze, knife-switch type, cadmium plated. Plug contacts hard brass, cadmium plated. Made in 2, 4, 6, 8, 10, and 12 contacts. Plugs and sockets polarized. Long leakage path from terminal, and terminal to ground. Caps and brackets, steel parkerized (*rust-proofed*). Plug and socket blocks interchangeable in caps and brackets. Terminal connections most accessible. Cap insulated with canvas bakelite.

Write for Jones BULLETIN 500 for full details on line.

Jones
HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

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Greater filtering capacity! •

new

Houdaille "4" COOLANT C
. . . for all water and oil or mi
in individual machine tools
or small central systems

New Multi-Tube Design Features:

16,000 SQ. INCH FILTERING AREA — Assures complete removal of chips, abrasives, dirt and other solid contaminants. Keeps coolant clean, safe for re-use indefinitely.

SELF-CLEANING FILTER TUBES — Self-cleaning filter tubes, washed free of contaminants during brief backwash interval, require no manual cleaning or maintenance . . . provide maximum filtering efficiency at all times.

ECONOMICAL OPERATION— NO PRECOATING OR FILTER AIDS — Practical design provides dependable trouble-free operation . . . eliminates all need for precoating, filter aids, or expendable filtering media.

Compact, multiple filter-tube unit increases production, reduces downtime, extends tool and wheel life, allows better product finishes with fewer rejects. For complete details write . . .

WORLD LEADING FILTER MA

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"This Bulletin May Hold the Answer to YOUR CONVEYING PROBLEMS"

MATHEWS CONVEYER
Engineering Offices or Sales Agencies in Principal American & Canadian
General Offices, Mathews Conveyer Company . . . . . Ellwood, Penn
Pacific Coast Division, Mathews Conveyer Company West Coast . San Carlos, C
Canadian Division, Mathews Conveyer Company, Ltd. . . . . Hope,

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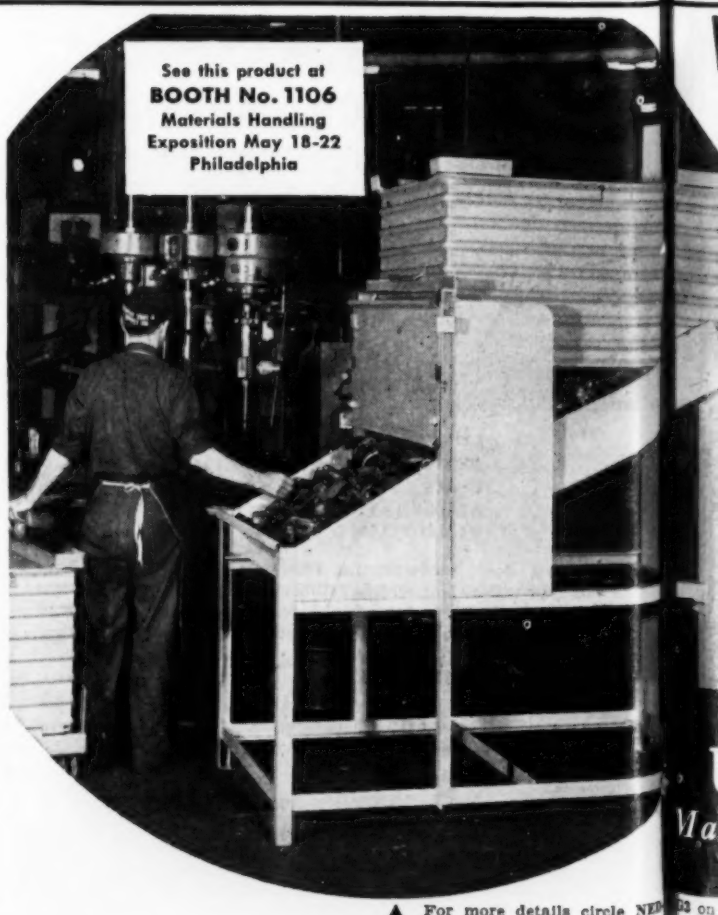

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acity! • Lower operating cost!

HONAN-CRANE CORPORATION
405 Wabash Ave., Lebanon, Indiana
a subsidiary of **HOUDAILLE-HERSHEY CORP.**

WORLD LEADING OIL FILTER MANUFACTURER

le NED-G3 on enclosed inquiry slip ▲

e Answer
OBLEMS"

HEW

NVEYERS
American & Canadian Cities
Ellwood, Pennsylvania
Coast, Sarlos, California
. . . Hope, Ontario

● We could say . . . "Hot off the press! Come and get it." But, that's no way to present the solution to a conveying problem. We do say, however, that this bulletin, presenting the newest in Mathews General Purpose Belt Conveyers, could be just what you're looking for. It might help you solve a particular conveying problem. Write for it today.

rcle NED-G3 on enclosed inquiry slip ▲

WILL YOUR SKID BOXES DO THIS?

Work-O-Matic* Boxes cut waste motion!

Work-O-Matic drop-bottom box and stand units, as shown, *automatically* position and feed parts at work level! Tiring, inefficient bend-and-stretch procedure is eliminated. Moreover, supply delays are avoided because the reservoir tray "bridges the gap" while the empty box is being replaced. Filled boxes are quickly, easily fork-lifted into position.

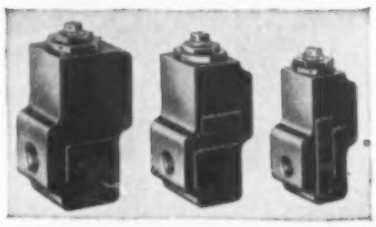
These and other unique advantages mean up to 50% production gains in job after job. So get *all* the facts! Write to The Union Metal Manufacturing Co., Canton 5, Ohio, for Folder MH-809 and T & M Studies.

*Patent No. 2,445,088. Other patents pending.

UNION METAL
Materials Handling Equipment

circle NED-G3 on enclosed inquiry slip ▲

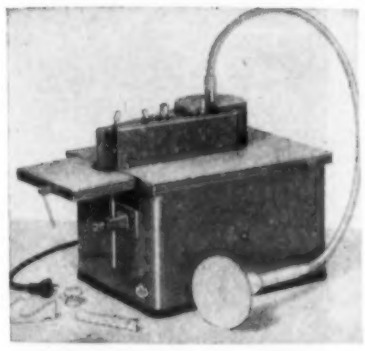
RELIEF VALVES
2, 5, 9, and 16 gpm sizes available



Designed to limit pressure in an oil circuit to the desired maximum, AA-31300 series relief valves feature rated capacities of 2, 5 and 9 gpm which exceed AN specifications. A 16-gpm size is also available. Operating pressure range is adjustable from 500 to 4500 psi without parts change. Very low pressure variation from cracking point to maximum rated capacity and extremely low internal leakage are characteristics. Features which can be incorporated include a vent for controlling valve from an outside source and an external drain to allow isolation of flow over valve control ball so that system back pressures will not affect pressure relief setting. Four-port models are obtainable. Made by **Vickers Inc.,** 1400-63 Oakman Blvd., Detroit 32, Mich.

▲ For more details circle **NED-471 G3** on enclosed inquiry slip ▲

BELT SANDER
will work difficult shapes



Small-radius changeable tips are used at one end of the belt run of the Multi-Sander, so that while flat surfaces can be efficiently handled, the unit is very useful for working complicated shapes that would ordinarily require hand treatment. A further feature is the power take-off provided for a flexible shaft on which a sanding disc, drum or cone can be operated. Using 3 x 27-in. belt driven by ⅓-hp motor, the machine has built-in dust collection, adjustable end and side tables, simple belt adjustments, belt guards and toggle switch to control motor. Made by **Von Jonker Corp.,** Irvington Station, Indianapolis 19, Ind.

▲ For more details circle **NED-472 G3** on enclosed inquiry slip ▲

DO YOU KNOW? Complete facilities are available for the engineering and actual encapsulation of electronic components and circuits in thermosetting plastics to protect them from moisture, atmospheric conditions, shock and abrasion. Assurance is also provided that circuits, once encapsulated, are set to specification, and the danger of tampering is eliminated. Service offered by Calresin Corp., 335 N. Santa Anita, Arcadia, Calif.

▲ For more details circle **NED-473 G3** on enclosed inquiry slip ▲

ENGRAVING and MARKING

ENGRAVES, ROUTS PROFILES and MODELS
A real money saver for industry.
Proven by the experience of tool and die, electronic machine, radio, electrical and instrument manufacturers.

The Green Engraver zips out precision work on metal, plastics, wood, glass, hard rubber etc. . . . engraves panels, name plates, scales, dials, molds, lenses, instruments, instruction plates, directional signs . . . by simple tracing. *Routing, profiling and three dimensional modeling indicate its versatility.* Electric etching attachment available.

Specify the Green Engraver for the best in low cost performance.
Special attachments and engineering service available for production work.

FREE — Fact-packed folder yours upon request.

Green Instrument Co. INCORPORATED
375 PUTNAM AVENUE CAMBRIDGE 39, MASS.

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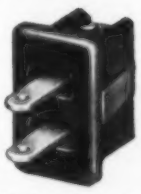
Save Time, Save Money
WITH
'DIAMOND H' SNAP-INS



Consistently tops in quality, "Diamond H" snap-in toggle switches, outlets, pilot lights and inter-connecting load plugs are making important contributions to the performance of leading makes of major appliances, electrical housewares, beauty parlor, air conditioning and ventilating equipment and other devices.

Users like them . . . for their dependability, their appearance *and the man hours they save on assembly lines.* Just snap them into place (wiring up before or after) and spring clips hold them firmly. Wide flanges eliminate need for close tolerances in finishing around installation holes.

Switches, rated 15 and 20 A., 125 V.; 10 A., 250 V., A. C., and also with h.p. ratings. Pilots rated 115 V. or 230 V., A. C. All four devices available in black, white, brown or special color plastic to harmonize with your product. Send us your requirements today. UL approved.

THE HART MANUFACTURING COMPANY
204 Bartholomew Ave., Hartford, Conn.

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PREVENT THERMOMETER FOGGING

No matter how long you dunk it, you can't cloud the accuracy of a Rochester dial thermometer.

THIS SUBMERSIBLE QUALITY is important to you. It means fast, easy temperature readings . . . without any danger of a foggy crystal causing inaccuracy. Rochester dial thermometers are assembled and hermetically sealed in a special humidity-controlled "dry" room. This eliminates any possibility of condensation inside the thermometer.

ALL STAINLESS STEEL CONSTRUCTION—All outer parts (except crystal) of Rochester dial thermometers are stainless steel. What's more, the case, stem and nut are fused into a single *corrosion-resistant* unit by an exclusive Rochester welding process.

EXCLUSIVE OUTSIDE RECALIBRATION—Rochester makes the *only* industrial thermometer that can be recalibrated from outside the case. If an extremely hard blow should knock it out of adjustment, you can have it back on the job in less than a minute . . . without taking the thermometer apart or breaking the hermetic seal.

You can order Rochester thermometers from one of our specialized instrument representatives listed in Sweet's Catalog. Or write direct for full details. Rochester Manufacturing Company, Inc. 114 Rockwood St. Rochester 10, N. Y.

MILLIONS of Rochester Dial Thermometers are now delivering dependable service

Rochester MANUFACTURING COMPANY, INC.
DIAL THERMOMETERS · GAUGES · AMMETERS

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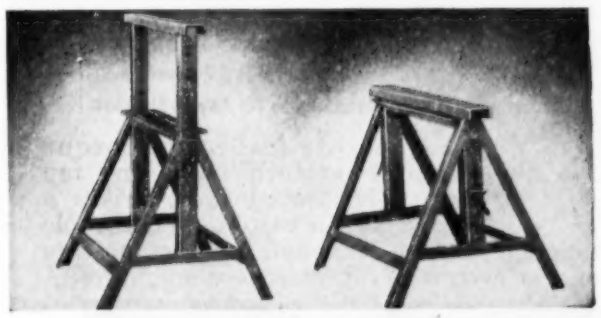

EVERY PLANT CAN USE ADJUSTABLE STEEL HORSES

They are the "work horses" in every plant or shop . . . more than pay for themselves, and are never idle because of the many uses their ready adjustability will easily serve:

SPOT WELDING TABLES	SCAFFOLDING
FABRICATION SUPPORTS	CONVEYOR SUPPORTS
LAYOUT WORK	MAINTENANCE WORK
BENCHES	And many other uses

MODELS FOR HEAVY OR LIGHT WORK

Standard length 36". Low Height 24"; Extended Height 42". Adjustable at 1½" intervals. Held in position by steel lock pins. All units portable. Painted one coat chrome yellow.

Send today for BULLETIN No. 500 covering BRUSCO Boxes and Hoppers.

Brusco HANDLING EQUIPMENT
BRUMMELER STEEL PRODUCTS CORPORATION
1411 Ionia Ave., S. W. Grand Rapids, Michigan

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FABRICS & TAPES For ALL INDUSTRY

FLIGHTEX FLIGHTEX FABRIC FABRICS

• GLASS
• COTTON
• VINYON
• DYNEL
• ORLON

If you use special industrial fabrics and mechanical tapes, you'll find Flightex a dependable source of supply. Our staff of engineers is at your service to help solve your fabric and tape problems.

Write for Complete Information

FLIGHTEX FABRICS, Inc.
91 Worth Street New York 13, N. Y.

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PRODUCTION UP COSTS DOWN WITH Commander PRODUCTION TOOLS

Adjustable MULTI-DRILL

• Adjustable To Any Hole Pattern
• Drill 2 to 8 Holes at 1 Stroke
• Fits Any Drill Press

MODEL 900

Increase production up to 800%—save time, cut costs. Mounted without alterations or special tools. 9" drilling area; centers to ½". Extension Spindles available to increase area to 22½". Special adaptations available.

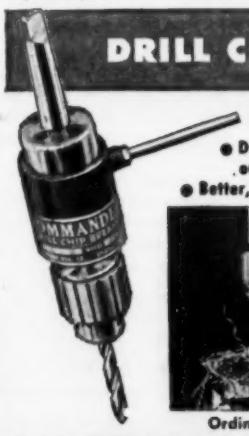
"the tapper that thinks for its operator"

Commander TAPPER

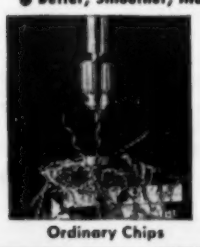
• Wider Range...1 Tapper Handles #0 to ¾" Taps
• Automatic Tap Protection
• Furnished to Fit Any Drill Press

Adjustable full range torque control instantly stops any tap when it's dull, loaded, strikes a hard spot, or bottoms in blind hole tapping. Assures maximum production, cuts rejects, even with inexperienced operators.

DRILL CHIP BREAKER



• Drill SHALLOW or DEEP Holes up to 400% Faster
• Drill 10 diameters or more in depth without clearing drill
• Better, Smoother, More Accurate Holes



Ordinary Chips

Chip Breaker Chips

Write FOR CATALOG #851 and the name of your nearby Commander Distributor

Commander MFG. CO.
4220 W. KINZIE STREET
CHICAGO 24, ILLINOIS

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FOOT SWITCH
of snap action type

Electrically operated equipment of various types can be started and stopped with this snap action on-off foot switch. It is installed by inserting the series plug on the foot switch cord into the wall receptacle and plugging the apparatus to be operated into the series plug. Switch will handle high inductive loads with a minimum of arcing. Current rating is 15 amp at 115 v. Antiskid pad on bottom of metal case holds switch in position. Measuring 4¼ x 3 x 1 in., it has an 8-ft cord. Made by **Lectromatic Devices Corp.**, 3345-47 Addison St., Chicago 18, Ill.

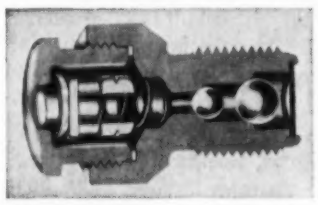
▲ For more details circle NED-480 G3 on enclosed inquiry slip ▲

STOCK CARRIERS
wheeled units stack readily

Compactness and ease of handling are features of these tubular heavy duty stock carriers which have wire mesh sides for visibility of contents. Having capacity of 1 ton, units can be moved individually or as trackless train. They can be stacked up to six high with standard fork truck. Tubular corners and corrugated ends and base provide ample strength. Side drops down on heavy hinges, and two swivel and two rigid 6-in. roller bearing casters afford mobility. Units can be ordered from stock or made to order in any size. Made by **Rack Engineering Co.**, Dept. R-NED, Connellsville, Pa.

▲ For more details circle NED-481 G3 on enclosed inquiry slip ▲

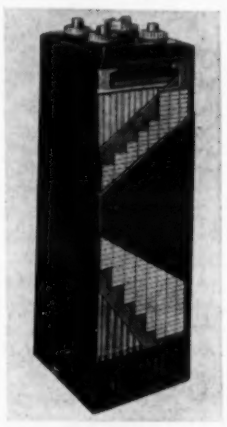
LUBRICATION FITTING
for use with high back pressures



Designed for use on lubricated plug valves where extreme back pressures are encountered, this lubrication fitting has three checks against loss of lubricant, line fluids or gases. Two ball checks augment the standard check valve at the top of the fitting. Fitting permanently replaces the regular lubricant screw so that the lubricant can be injected directly into the valve by a high pressure hand gun or bucket pump. All valve lube ports are positively lubricated regardless of line back pressure. Made by **Stewart-Warner Corp.**, Alemite Div., Dept. NED, 1826 Diversey Pkwy., Chicago 14, Ill.

▲ For more details circle NED-482 G3 on enclosed inquiry slip ▲

STORAGE BATTERY
features slotted tube positive plate



Capacity has been increased 20 per cent by improvements in line of T-H Exide Ironclad batteries. Polyethylene nonoxidizing slotted tubes of the positive plate keep active material in constant contact with grid spines, yet allow free electrolyte penetration throughout the active material. Polyethylene acidproof tube-sealer fitted to bottom of positive plate seals in active material. Grids contain corrosion-resistant Silvium. Positive plates are larger and are balanced by extra heavy negative plates. Pormax separators, homogenized sealing compound and seamless rubber are other features. Steel trays have acid-resistant plastic coating. Made by **Electric Storage Battery Co.**, Dept. 1-AD, P. O. Box 8109, Philadelphia 1, Pa.

▲ For more details circle NED-483 G3 on enclosed inquiry slip ▲

Splice...Tap...Terminate with "Lock-Tite" Connectors

T&B ENGINEERED

Once tightened, T & B Lock-Tite connectors stay tight . . . on solid rod, tubing, or all types of cable from #4 to 1000 MCM.

Simply installed with a key wrench, Lock-Tite fittings have a built-in lock-washer and serrated saddle and socket to assure high-conductivity connections . . . they can be used over and over.

LOCK-TITE LUG — All-around pressure prevents damage to cable strands. Seven sizes fit all cable sizes from #4 to 1000 MCM.

LOCK-TITE TEE-PARALLEL TAP — Use as a tee, parallel, elbow, two-way or reducing connector. Hinged top hooks to the "main"; lower opening holds the "branch".

LOCK-TITE TWO-WAY CONNECTORS — Use as an end-to-end connector or reducer. Each cable separately held by individual serrated saddles.

For complete information on T & B Lock-Tite connectors send for a free folder. T320

THE THOMAS & BETTS CO.
INCORPORATED
24 Butler Street, Elizabeth 1, New Jersey
Thomas & Betts Ltd., Montreal, P.Q., Canada

▲ For more details circle NED-484 G3 on enclosed inquiry slip ▲

First in stainless steel fastenings

INDUSTRIAL EQUIPMENT manufacturers count on Anti-Corrosive for fast, dependable service on all types of stainless steel fastenings. They know that our IN STOCK inventory of more than 8,000 items and sizes is the largest, most complete, in the industry. In addition, our production capacity is geared to produce large or small quantities of stainless fastenings, of every size and description, faster and more economically!

Write for Catalog 53T today.

ANTI-CORROSIVE METAL PRODUCTS CO., INC.
Castleton-on-Hudson New York

▲ For more details circle NED-485 G3 on enclosed inquiry slip ▲

TEETH with lasting cutting accuracy

The tooth design of Brown & Sharpe Cutters gives you cleaner cuts . . . and their stamina "stretches out" sharpening dates. The Brown & Sharpe line covers all types and sizes, from plain milling cutters and end mills, to metal slitting saws and special form cutters. Write for illustrated catalog and select *exactly* the cutters you need. Brown & Sharpe Mfg. Co., Providence 1, R. I., U.S.A.

BUY THROUGH YOUR LOCAL DISTRIBUTOR

B·S Brown & Sharpe

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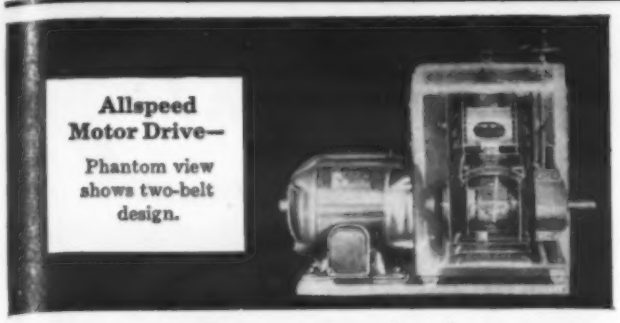


Why 2 belts instead of one on ALLSPEED MOTOR DRIVES?

This is an easy one:

Less space, because of compact design. Available in upright or horizontal models, with output on right or left hand side . . . *Longer life,* because belts are narrower, wear better . . . *Easier replacement*—no dismantling to change belts.

Other features you'll like: Automatic positive belt tensioning . . . Bronze bushings on all wearing parts . . . Can be run in either direction . . . Mounted in any position . . . Shielded and life lubricated ball bearings . . . Uses standard foot mounted motors.

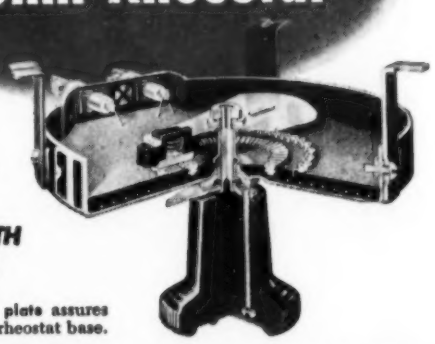
Sizes from ⅓ to 7½ hp; up to 16-1 range of variation. Units available without motors.

Write for Bulletin AS-1600-B6. Worthington Corporation, Allspeed Drive Division, Holyoke, Mass. AS.2.6

WORTHINGTON
Allspeed Drives

For more details circle NED-487 G3 on enclosed inquiry slip

NEW Vitrohm Rheostat



with 6 exclusive features FOR SMOOTH CONTROL

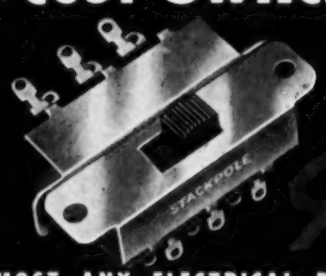
1. Pressed steel base plate assures a sturdy lightweight rheostat base.
2. Balanced contact arm reduces creep from vibration or shock.
3. Solid brass rectangular contacts provide more steps of control.
4. Reflexed collector ring supplies a self-cleaning surface.
5. Vitrohm enamel permanently seals and insulates stationary components.
6. Contact shoe and bearing are self-lubricated for smooth control.

Close control by Ward Leonard over the manufacture of every component results in the most dependable and economical line of rheostats ever made. For new Bulletin 60a write to Ward Leonard Electric Co., 51 South St., Mount Vernon, N. Y. 3.24

WARD LEONARD ELECTRIC CO.
Result-Engineered Controls Since 1892
RESISTORS • RELAYS • MOTOR CONTROLS • CHROMASTER

For more details circle NED-488 G3 on enclosed inquiry slip

LOW COST Switches



FOR ALMOST ANY ELECTRICAL PRODUCT

16 STANDARD DESIGNS

INCLUDING 3 AMP. SLIDE SWITCH TYPES

Priced low, ruggedly made, Stackpole slide switches are ideal for toys, radios, phonographs, automobiles, and electrical appliances and equipment of all types. 1 to 6 pole types, up to 4 positions, optional detent, spring return, covers and other features. Write for Bulletin RC-7C.

STACKPOLE CARBON CO., St. Marys, Pa.

STACKPOLE

OTHER STACKPOLE PRODUCTS:
Motor Brushes • Electrical Contacts • Permanent Magnets • Fixed and Variable Resistors • Iron Cores and dozens of molded carbon and graphite specialties • Ceramag®

For more details circle NED-489 G3 on enclosed inquiry slip

SPOT WELDER equipped with air/oil booster

Limited only by the size and shape of work pieces, this new air/oil booster operated spot welder can handle varied jobs without expensive cooling, making it invaluable to the small metalworking shop. However, special fixtures are available, making many more job combinations possible. In the larger plant, machine is suitable for production line work. Made by **Taylor-Winfield Corp.,** 1056 Mahoning Ave., Warren, O.

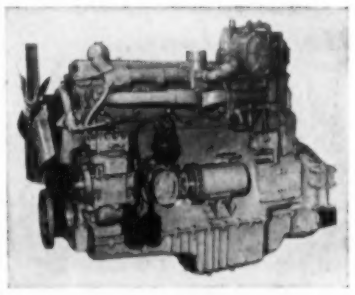
For more details circle NED-490 G3 on enclosed inquiry slip

RIVET COOLER is portable, self-contained unit

Aluminum rivet storage is purpose of this self-contained portable rivet refrigerator which utilizes a ½-hp condensing unit. Capacity is 48 lb of aluminum rivets. Six canister racks and 48 individual canisters store the rivets centrally in the storage compartment. Thermostatically controlled refrigeration system will maintain a rivet temperature as low as 30° F if desired. Made by **Ace Cabinet Corp.,** Room 309, 1457 Broadway, New York 36, N. Y.

For more details circle NED-491 G3 on enclosed inquiry slip

INDUSTRIAL ENGINE uses gasoline, butane and propane

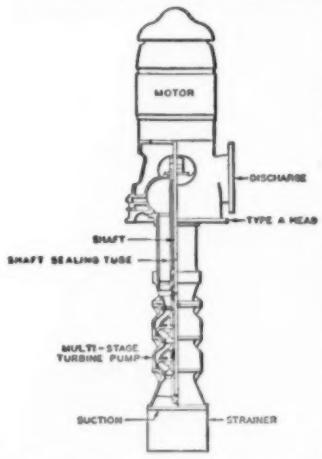


Six-cylinder model 935 industrial engine is built to operate efficiently on gasoline of various octane ratings or on such LPG fuels as butane or propane. It has a 5¾-in. bore, 6-in. stroke and displacement of 935 in. Cast enbloc cylinders are of chrome nickel molybdenum iron. Engine has seven main bearings and is water-cooled. Horsepower ratings for gasoline, and butane are 290 and 305 hp, respectively, at 2400 rpm. Maximum torque is 820 and 880 lb-ft at 1400 rpm, respectively, and compression ratios are 6.4 to 1 and 8.8 to 1. Made by **ACF-Brill Motors Co.,** Hall-Scott Motor Div., 2850 Seventh St., Berkeley 10, Calif.

For more details circle NED-492 G3 on enclosed inquiry slip

WET PIT PUMP "packaged" vertical type unit

Unit-Line close-coupled wet pit vertical turbine pumps are offered in a "packaged" line that can be ordered by model number from head capacity selection charts.



Pre-engineered for wet pit or tank operation, pumps are made in graduated sizes. Design incorporates a shaft sealing tube and special throttle bearing and eliminates need for packing glands. Capacities range from 20 to 2000 gpm at heads from 10 to 550 ft, with dripproof, totally-enclosed or explosionproof motors in capacities from ¼ to 200 hp. Made by **Johnston Pump Co.,** Dept. T-53, Pasadena 19, Calif.

For more details circle NED-493 G3 on enclosed inquiry slip

Don't scrap expensive tools and dies—now you can save money . . . maintain and boost your production through salvage welding! Brand new 64-page book, crammed full of ideas, tells you how to save thousands of dollars through simple, yet effective tool and die salvage procedures. Over 100 how-to-do-it photographs and easy-to-follow diagrams graphically show you new materials and new techniques that can save you time, labor and materials. Every page has one or more money-saving ideas you can use right in your own plant, factory, or shop.

SEE HOW OTHERS SAVE—AND HOW YOU CAN, TOO!

SEE *. . . how easily YOU can save countless hours of equipment "downtime" due to delayed delivery of replacement tools and dies . . . how to save critical materials by rebuilding all types of worn dies . . . how to revamp punches and dies by welding, saving cost of redesign . . . how to weld broken tools to operate "good as new" instead of scrapping . . . how to avoid complete retooling formerly caused by minor design changes . . . how welding builds up dies out of several components, eliminates high machining costs, and permits use of cheaper base materials for non-working surfaces.*

Send For Your FREE Copy Today

EUTECTIC WELDING ALLOYS CORPORATION
172nd Street & Northern Blvd.—Flushing 58, N.Y., N.Y.

For more details circle NED-494 G3 on enclosed inquiry slip

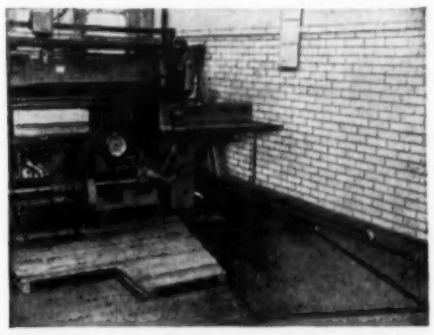
GLOBE OiLIFT

solves a machine feeding problem

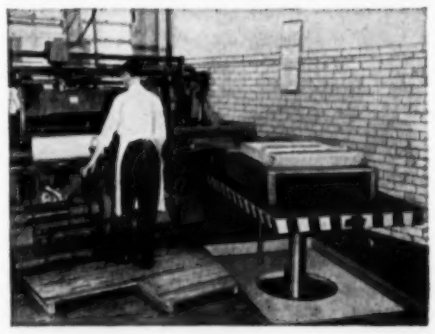
Any print shop will tell you that feeding a power-driven paper cutter is a tough job. Hour after hour, it's stoop, turn, lift, twist as the operator transfers the sheets of paper stock from skid to cutter. Fatigue soon cuts the operator's accuracy and efficiency, reduces production and boosts costs.

A Washington, D. C. print shop licked this problem by installing a Globe Production Lift alongside the paper cutter. In the "down" position, the platform recesses in the floor. It's out of the way and loaded skids easily are rolled onto the Lift. Hydraulic power "inches" the platform upward as the paper stock is fed into the cutter. Sheets always are at the best level for easy, fast handling—the operator never has to stoop. The paper cutting output has increased materially. And the operator is less fatigued at the end of the day.

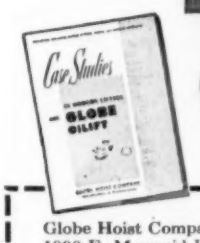
You can solve *your* materials handling and lifting problems with a Globe OiLIFT. Use the coupon *today* to get a free copy of Globe's valuable illustrated book of Case Studies in Modern Lifting.



Globe Production Lift in "down" position, flush with floor and ready to receive skid load of paper stock.



Lift keeps top of stock pile level with the bed of the cutter. Fatigue-producing stooping and lifting eliminated.



GLOBE
THE BEST LIFT

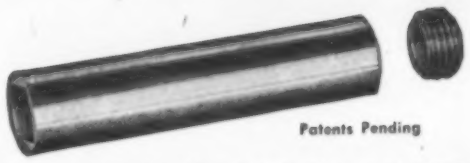
Globe Hoist Company NED-530
1000 E. Mermaid Lane
Philadelphia 18, Pa.

Please send me a copy of "Case Studies in Modern Lifting."

Name.....
Company.....
Address.....
City and Zone.....State.....

For more details circle NED-495 G3 on enclosed inquiry slip

How SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!



Patents Pending

One of the most difficult problems in toolmaking can be solved easily and quickly with Sturdy Square Holed Sleeves. The perfection of broached square holes can be had in boring bars, milling cutters and many other applications at a small fraction of the cost of imperfect hand-made square holes. The Sturdy Square Holed Sleeve consists of a round sleeve with a perfectly square hole broached through the center. This hole is tapped at one end to receive a back-up screw which is furnished with the Sleeve. The Sleeve can be sweated or pressed into a drilled and reamed hole to make a perfectly square accurate hole in a very few minutes.

The Sturdy Square Holed Sleeve will save you many hours and many dollars in the making of boring bars, tool holders and other tools requiring square holes.

SLEEVES MADE IN FOLLOWING SIZES:
3/16, ¼, 5/16, ⅜, 7/16, ½, ⅝, ¾, 1"

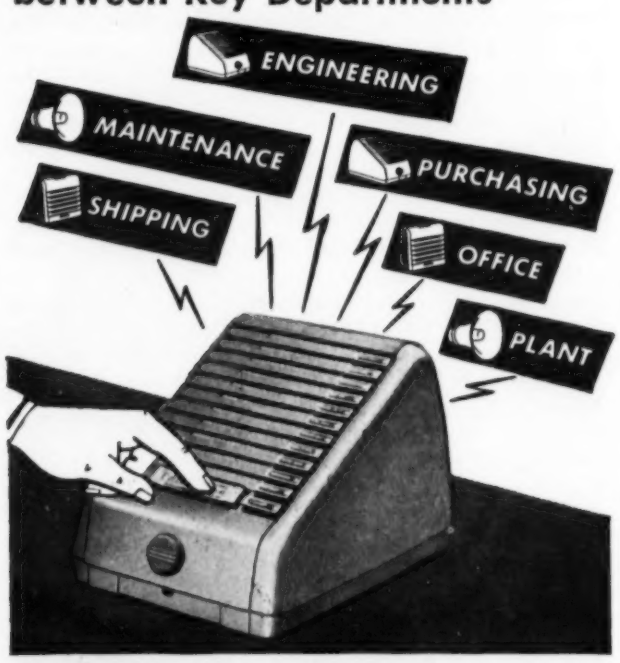
Write for Literature

STURDY BROACHING SERVICE
23514 TELEGRAPH RD., DETROIT 19, MICH.

For more details circle NED-496 G3 on enclosed inquiry slip

Step Up Production

with faster communication between Key Departments



EXECUTONE Intercom puts every department at your fingertips—*instantly!*

Production moves faster when you don't have to wait for information. With Executone you talk to any department, anywhere in your office or plant—*instantly!* No time lost running back and forth. No waiting on "busy" inside phones. You get more work done—*faster!*

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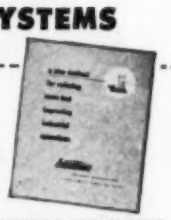
INTERCOM SYSTEMS

GET THE FACTS



EXECUTONE, INC., Dept. G-4
415 Lexington Ave., New York 17, N. Y.

Without obligation, please send me full data on Executone Intercom. I am particularly interested in:

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☐ INTRA-PLANT COMMUNICATION ☐ INVENTORY CONTROL
☐ MATERIALS HANDLING CONTROL ☐ LOCATING PERSONNEL

Name.....Title.....
Firm.....
Address.....City.....

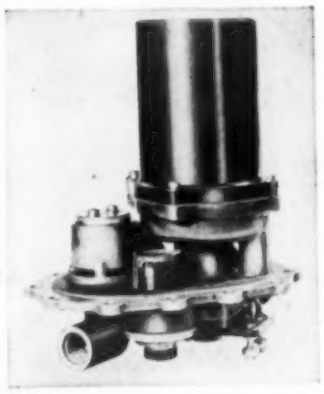
For more details circle NED-497 G3 on enclosed inquiry slip

TESTING POWER SUPPLY
furnishes stable, controlled current

Tesco meter testing power supply is designed to furnish a stable and controlled source of single-phase potential and single-phase current for general testing purposes. Means are provided for adjusting the phase angle so that power can be supplied at any desired power factor, either leading or lagging. Use can be for gang test of thermal demand or watt-hour meters (with or without demand attachments), testing of network and other types of relays and instrument standardization. Made by **Eastern Specialty Co.**, 3617 N. Eighth St., Philadelphia 40, Pa.

For more details circle NED-498 G3 on enclosed inquiry slip

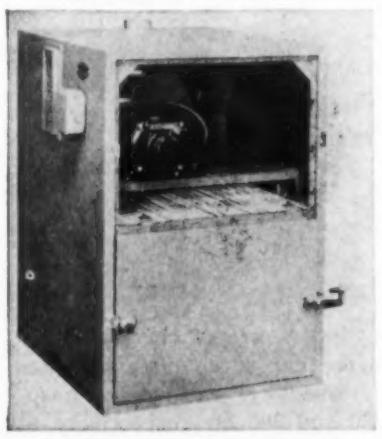
TURBINE AIRCRAFT PUMP
for internal water pumping service



Light weight and compactness are features of the RR-9700 turbine aircraft pump. It is constructed of corrosion resistant materials with anodized aluminum castings, dissimilar metals being separated by dielectric insulators. It has no wearing or closely fitted parts; the only moving part is the peripheral type turbine wheel. Maintenance and installation are simple. A radio interference filter and thermal cutout are incorporated. Made by **Lear, Inc.**, Romec Div., 1440 Abbe Rd., Elyria, O.

For more details circle NED-499 G3 on enclosed inquiry slip

DUST COLLECTORS
side panel exhaust vent is optional



Location of exhaust outlet in left side panel is now optional on smaller cabinet type Torit dust collectors. Design permits recirculation of cleaned air where most practical location for the collector is beneath bench or work table. Model No. 66 shown stands 33 in. high, is powered with ½-hp motor and moves 370 cu ft of air per minute at an air speed of 7,500 fpm and with static pressure of 4½ in. Thus it can handle dust from several small grinding, polishing or buffing wheels. Made by **Torit Mfg. Co.**, 298 Walnut St., St. Paul 2, Minn.

For more details circle NED-500 G3 on enclosed inquiry slip

FAST CHARGER
for 12 and 6-volt batteries

Dual voltage 80 fast charger will charge a 6-v battery at a rate of 80 amp or less and in addition charges a 12-v battery at a rate of approximately 40 amp. Additional features include an ammeter, a weight of only 30 lb, and an arrangement whereby the time switch automatically shuts down the fast charge to a safe soaking charge when it runs to an "O" position. Made by **Baldor Electric Co.**, 4353 Duncan Ave., St. Louis 10, Mo.

For more details circle NED-501 G3 on enclosed inquiry slip

ITS FELT TIP WRITES ON EVERYTHING!

in BOLD or *fine* lines

Marking steel drums, tools, parts, pipes, etc. is smooth sailing with the Flo-master Felt-Tip Marker.

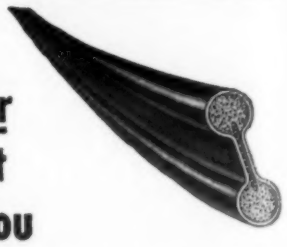
The complete range of ten colors in Flo-master Inks permits speedy and accurate identification for assembling, stocking, inspecting.

Flo-master semi-opaque inks — waterproof, non-smudging, fast-drying — are recommended for hard-to-mark surfaces using the KING SIZE Flo-master. For general purpose marking—cartons, cases, etc—use Transparent Inks with POCKET SIZE Flo-master (illustrated).

Contact your supplier or write direct to Cushman & Denison Manufacturing Co., 153 West 23rd Street, New York 11.

Flo-master
FELT-TIP MARKER

For more details circle NED-502 G3 on enclosed inquiry slip



Can our product help you improve your product?

This is **INNER-SEAL.** It's extremely durable, extremely effective . . . with many features that eliminate sealing problems in the manufacturing of countless products.

Inner-Seal's bead is of *live sponge rubber* which compresses under pressure, then springs back into shape. Its flange is of *woven spring wire*, tough but flexible enough to fit snugly around corners. Its coating is of *waterproof neoprene* . . . designed for sub-zero or tropical temperatures, sunlight, humidity, grease, oil or abrasion. Available in various dimensions. Standard Inner-Seal in many colors . . . heavy-duty "dumb-bell" type in black . . . special types can be made to order.

Although Inner-Seal is most widely known in the refrigeration, railway, shipping and automotive fields, it's continually finding many new applications. Maybe *you* have one . . . maybe we can help!

FREE SAMPLES and complete information. *Write today.*

Bridgeport INNER-SEAL Live Rubber WEATHER STRIPPING

BRIDGEPORT FABRICS, INC., BRIDGEPORT 1, CONN.

For more details circle NED-503 G3 on enclosed inquiry slip

CUT BLUEPRINTING COSTS 50% TO 80%

SAVE TIME—SAVE MONEY

VERSA-LINER SPEED MASTER MODEL "S" AMMONIA-TYPE WHITEPRINTER

NEW, FASTER— MORE EFFICIENT!

● *Prints up to 14 ft. per min. Develops at 8 ft. per min.* Produces black line and colored line whiteprints in volume at low cost! Handles cut sheets or roll stock up to 42" wide in any length. *Equipped with 2000 watt* high pressure Vicor jacketed lamp for greater printing speed. *Newly devised blower system* for coolest contact—protects originals. Feed, delivery and all controls in front, within easy reach. Easy to install and operate. Trouble-free. Simple to clean. Minimum maintenance. 220 v. single-phase 60 cycle AC. Priced at $1565.00. *Get full facts now.*

Also other Versa-Liner and Spee-Dee Whiteprinting Outfits for Moist Diazo or Ammonia Dry Process from $55.00

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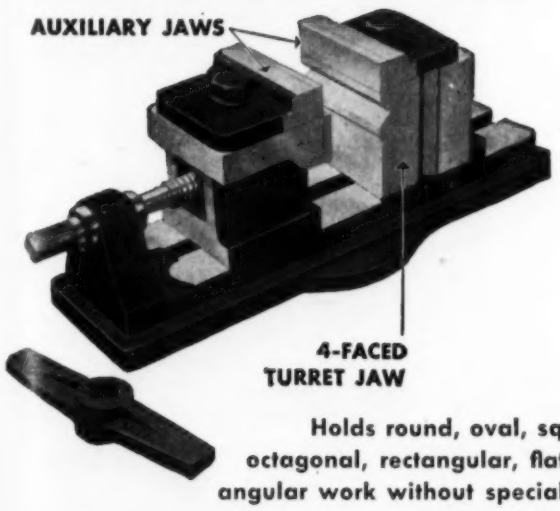
5638 N. WESTERN AVE.
CHICAGO 45, ILLINOIS
Founded in 1937—Over 10,000 Machines in Use
MFRS. OF WHITEPRINT, BLUEPRINT AND PHOTOCOPY EQUIPMENT

For more details circle NED-504 G3 on enclosed inquiry slip

For more details circle NED-505 G3 on enclosed inquiry slip

For more details circle NED-506 G3 on enclosed inquiry slip

SAVE SET-UP TIME



Holds round, oval, square, octagonal, rectangular, flat and angular work without special jigs.

Both men and machines put more time on productive work when Brown Vises are used because turret jaw faces and auxiliary jaws eliminate time wasted in "rigging" set-ups.

Quality is improved because husky vise (it weighs 96 lbs) holds work tight. Jaws open to 9½ inches. Clamping flange surrounds entire vise.

For complete specifications and prices write for Bulletin 23Y, Brown Engineering Co., 129 N. 3rd Street, Reading, Pa.

BROWN UTILITY VISES

For more details circle NED-507 G3 on enclosed inquiry slip

POTENTIOMETER
unit is pressure operated

Type 71-5 Baroresistor, a pressure-operated potentiometer for the barometric range of 0-15 psi, absolute, has its potentiometer winding and mechanism hermetically sealed in a vacuum. Sealing makes zero reference pressure unaffected by temperature change. Unit can be used on liquid or gas systems wherever a pressure-actuated potentiometer is required. Accuracy is 2 per cent of full scale and dimensions are 2 in. diameter by 2.5 in. long. Resistance is 7500 ohms and voltage is up to 75 v, with root-mean-square continuous. Made by **Trans-Sonics, Inc.**, 7 Forest St., Bedford, Mass.

For more details circle NED-508 G3 on enclosed inquiry slip

MOP WRINGERS
enclosed gearing protects mops

Completely enclosed gearing prevents the tearing of mop strings and greatly adds to mop life in this line of wringers. Three models are available for mops from 0 to 36-oz capacities. The units have a downward squeezing action, and are designed so that no moving parts except the flat pressure plates contact the mops at any time. Made by **Geerpres Wringer, Inc.**, 231 Diana Ave., Muskegon, Mich.

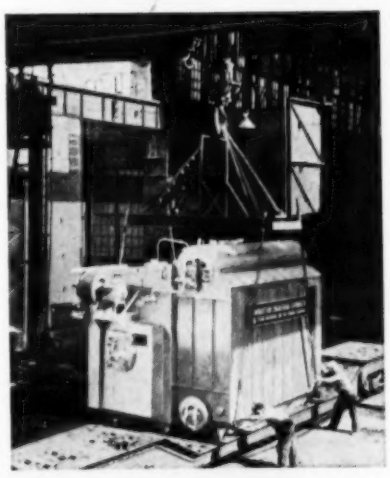
For more details circle NED-509 G3 on enclosed inquiry slip

INSERTING TOOL
installs wire thread inserts

Effortless installation of Heli-Coil stainless steel wire thread inserts is facilitated by this molded nylon prewinding tool available in many popular sizes. Thread in tip of tool compresses diameter of insert and aligns its helix to match that of tapped threads to be protected. Slotted mandrel with crank handle engages tang on insert. Turning handle screws insert into nylon prewinder thread. Tapered nose of prewinder is then placed against tapped hole, and further turning of handle winds insert into tapped hole. Made by **Heli-Coil Corp.**, Dept. NED, 1285 Shelter Rock Lane, Danbury, Conn.

For more details circle NED-510 G3 on enclosed inquiry slip

WATER-TUBE BOILERS
delivered assembled for installation



Steam capacities from 4000 to 30,000 lb per hour and pressures to 250 psi are given by the VP line of standardized, shop-assembled water-tube boilers. Designed for pressure firing of oil or gas either alone or in combination, the unit is delivered complete with firing equipment, setting, centrifugal-type forced-draft fan and an automatic control. This control system adjusts the air and fuel supply to the needs of fluctuating loads and provides protection from flame failure, excessive steam pressure and low water level. Made by **Combustion Engineering, Inc.**, Dept. P, 210 Madison Ave., New York 16, N. Y.

For more details circle NED-511 G3 on enclosed inquiry slip

WHICH FOR YOUR MONEY?..

You can specify the shaft size, speed, load, service conditions, space and weight limitations and get the Fafnir Ball Bearing that meets those specifications *exactly*. Fafnir makes the most complete line in America.

Fafnir Radial Ball Bearings are available in extra light, light, and medium sizes — in various tolerances — single and double row designs — duplex arrangements — and with various types of seals and shields. The Fafnir Bearing Company, New Britain, Conn.

FAFNIR
BALL BEARINGS
MOST COMPLETE LINE IN AMERICA

For more details circle NED-512 G3 on enclosed inquiry slip

COME *Clean with a* Clarke

Thirty-five years of Clarke know-how are built into Clarke floor maintenance machines to do your cleaning easier, faster and better. A Clarke does the job month after month without repair expense because it's job-designed and built for years of rugged service. That's why you should investigate Clarke before you consider any other floor maintenance equipment.

WD-23 WET-DRY VACUUM

No cleaning job — wet or dry — is too big for the WD-23 Wet-Dry Vacuum. Heavy porcelainized tank, inside and out, resists rust. Handy dump valve eliminates heavy lifting. Handy attachments available. Model WD-15 for smaller area jobs.

P-17 FLOOR MAINTAINER
(With Water Tank Attachment)

Scrubbing a floor spotlessly clean is no chore for this Clarke P-17 floor maintainer (shown with water tank attachment, available at slight extra cost). Works easily on any type floor.

Clarke SANDING MACHINE COMPANY
227 East Clay Avenue, Muskegon, Mich.
Authorized Sales and Service in Principal Cities

SEND TODAY!

Send this coupon for full, colorful details on Clarke floor maintenance equipment that will save you working time — and money.

Clarke Sanding Machine Company
227 East Clay Avenue, Muskegon, Michigan
Please send me full details on Clarke equipment and the name of my nearest dealer.
NAME_____
ADDRESS_____
CITY_____ ZONE____ STATE____

For more details circle NED-513 G3 on enclosed inquiry slip

ENAMELSTRIP

STEEL · ALUMINUM · BRASS · PRE-FINISHED COLOR COIL

assures a perfect finish before fabricating

You can easily cut production time and cost with Enamelstrip, the continuous-feed, pre-colored metal coil. Leading manufacturers of metal products are using it with outstanding results in a wide variety of items. Enamelstrip's exclusive, flexible finish withstands the stresses of drawing, bending and forming without cracking or peeling. Many companies have entirely eliminated their finishing departments! Any metal in any finish will be coated and slit to your own specifications.

Write TODAY for detailed color bulletin.

THE COATED COIL CORPORATION
507 West 30th Street, New York 1 • LOngacre 5-3161

▲ For more details circle NED-514 G3 on enclosed inquiry slip ▲

record your weights

1938
4770
6848
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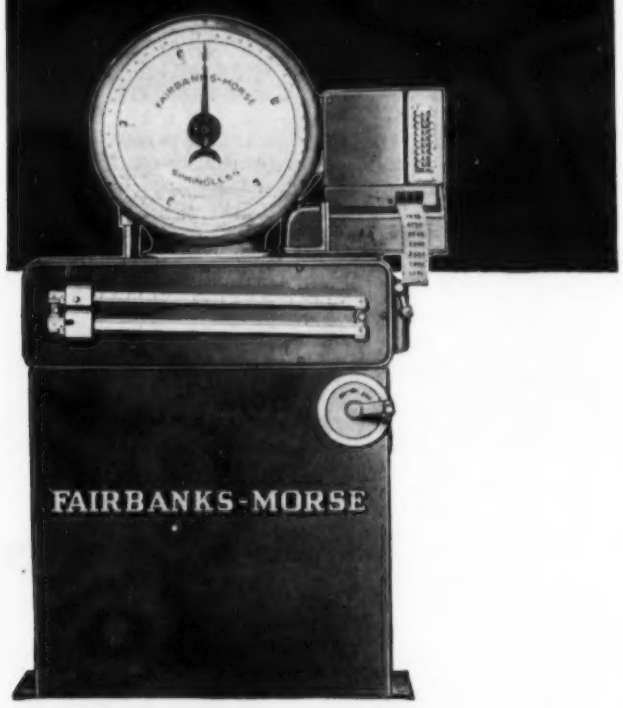
7893
1070

Automatically!



Rule out the chance for weighing errors with a Fairbanks-Morse Dial Scale with Printomatic Recorder. Other pertinent information may also be printed with the weight for accounting or identification purposes . . . and there's an electronic control for materials handling and processing.

See your local Fairbanks-Morse Scale Specialist and save annoying, costly receiving and shipping disputes . . . or write Fairbanks, Morse & Co., Chicago 5, Illinois.

FAIRBANKS-MORSE
a name worth remembering when you want the best

SCALES • PUMPS • DIESEL LOCOMOTIVES AND ENGINES • ELECTRICAL MACHINERY • RAIL CARS • HOME WATER SERVICE EQUIPMENT • FARM MACHINERY • MAGNETOS

▲ For more details circle NED-515 G3 on enclosed inquiry slip ▲

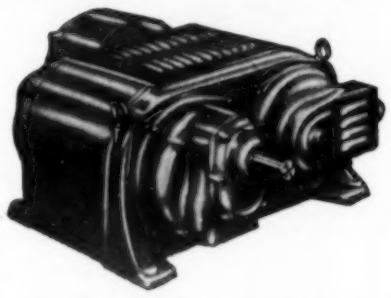
LIGHT-WEIGHT CASTERS
for dollies, racks and box trucks

Having hardened raceways and unbreakable fork and top plate, Press-Weld casters are designed for moderate duty usage. Available in 3¼, 4, 5, 6 and 8-in. sizes, wheels are of steel, rubber or molded plastic. Axles are of the hollow bolt and nut type, and lubrication is by Zerk-type fittings in the swivel fork and recessed head of the hollow axle. Upper and lower raceways are hardened to Rockwell 50C. Made by **Service Caster & Truck Corp.**, 578 N. Brownswood Ave., Albion, Mich.

▲ For more details circle NED-516 G3 on enclosed inquiry slip ▲

HORIZONTAL VARIABLE DRIVES
available in up to 30-hp sizes

Addition of horizontal frame size 64 VE now makes Varidrive motors up to 30-hp available in horizontal assembly. All-in-one construction, Microspeed control and indicator, splined Varidisc sheaves, double cog Varibelts with Autotaut tension control for permanent belt adjustment, dual belt construction, asbestos - protected motor and normalized castings are among features. Controls can be located above or at side of motor. Remote controls are available with mechanical extensions or electric pushbutton stations. Motors are offered in ratings from ¼ to 50 hp with variations up to 10:1. Speeds range from 2 to 10,000 rpm. Made by **U. S. Electrical Motors Inc.**, Dept. NED, 200 E. Slauson Ave., Los Angeles 54, Calif.



▲ For more details circle NED-517 G3 on enclosed inquiry slip ▲

HOSE MAINTENANCE KIT
for repair of ¼ to 1-in. ID hose

All types of hose from ¼ to 1 in. ID, regardless of ply, can be repaired with the Sav - A - Hose maintenance kit which comes equipped with one Jr. hose band tool and 20 bands each of sizes ¼, ½, ¾ and 1-in. ID hose. Band is formed around hose, then tightened and clamped with tool. It provides a neat clamp with no bulky obtrusions and can be used on all hose for tight rustproof connection. Properly applied bands withstand pressures up to 500 psi. Made by **Squire-Cogswell Co.**, 4142 N. Kedzie Ave., Chicago 18, Ill.

▲ For more details circle NED-518 G3 on enclosed inquiry slip ▲

INTERNAL GROWLER
checks stator and armature shorts

Exact location of coil shorts in ac motor stators and armatures is revealed quickly by the Crown internal growler. A definite movement of the meter needle shows up shorts in the coil area energized by the growler as it is passed around the equipment being checked. Once around the stator or armature gives a complete check. The unit may be used on stators from 6-in. ID up, and on armatures with 6 to 14-in. diameters and also on rotors to detect loose bars. Made by **Crown Industrial Products Co.**, 713 Amsterdam Ave., Woodstock, Ill.

▲ For more details circle NED-519 G3 on enclosed inquiry slip ▲

POR-ROK (POUR ROCK)

Fast Setting Cement

PERMANENTLY ANCHORS BOLTS IN CONCRETE WITHIN 30 MINUTES!

Securely fastening machinery, hand rails, seats, fixtures or any type of equipment to concrete by means of anchor bolts can now be done quickly, easily and safely with Por-Rok Quick Setting Cement.

Por-Rok successfully replaces lead and sulphur, and costs considerably less. Applied cold, there is no heating hazard. Simply mix Por-Rok powder with water and pour around bolt. Within 30 minutes the cement sets hard and the bolt is anchored permanently.

Por-Rok also makes quick, lasting repairs to holes and breaks in concrete floors with little or no interruption to normal traffic. It is self-bonding, self-leveling, oil-resistant, does not shrink. Compression strength of 4500 lbs. p.s.i. in one hour GUARANTEED.

For complete information—without obligation—write

THE HALLEMITE MFG. CO.
2452 WEST 25th ST. • CLEVELAND 13, OHIO SINCE 1927

▲ For more details circle NED-520 G3 on enclosed inquiry slip ▲

AMERICAN MONORAIL

Free Moving Cranes

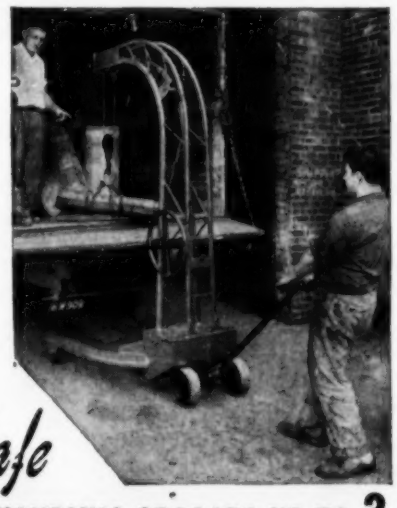
MANUAL-ELECTRIC

American MonoRail cranes offer all the advantages of lightness, easy movement, strength, live load capacity, interlocking and safety devices for loads up to 5 tons. Cranes are available for manual or power operation controlled from cab or floor.

SEND FOR BULLETIN C-1

THE AMERICAN MONORAIL CO.
13116 ATHENS AVENUE • CLEVELAND 7, OHIO

▲ For more details circle NED-521 G3 on enclosed inquiry slip ▲



Safe

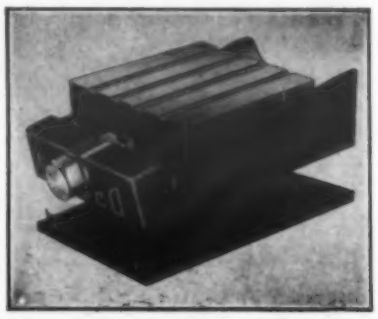
EASY HANDLING OF LOADS UP TO 3 TONS!

Unloading covered trucks, like other tough jobs, is no problem for one man with a "CANTON" Portable Floor Crane. This lightweight, tubular welded steel crane is made in 8 sizes ranging from one to three ton capacity. Bulletin N-52 tells the story.

The HILL ACME CO.
"CANTON" DIVISION 1201 W. 65TH ST. CLEVELAND 2, OHIO

▲ For more details circle NED-522 G3 on enclosed inquiry slip ▲

IMPROVED MACHINE LEVELING JACK
is 50% stronger yet lower in height.



Engineering improvements have made this Jack 50% stronger yet lower in height. This was accomplished by redesigning the Empco Jack so that the adjusting screw always remains cradled in the assembly. This insures full bearing of either front or back collar at any stage of operation.

Once the machine is set on Empco Jacks, the simple turning of adjusting screw, with a hand wrench will lower or raise the machine until your level indicator reads "zero". With this feature, periodic machine leveling can be done in a matter of minutes.

To reduce vibration, Vi-Sorb Mounting Pads are available with each style Empco Jack. These pads substantially reduce vibration, the percentage of reduction usually depends upon the thickness of the pad that is used.

Level machine installations with periodical re-leveling is essential to lower costs of machine maintenance. These costs are further reduced by the use of Vi-Sorb Mounting pads under every Empco Leveling Jack.

Available in three styles: JC-1 (standard) and JC-2 (heavy duty) pictured here, and the newest style JS particularly designed for use with anchor bolts. Many models in all styles with minimum height ranging from 1⅞" to 4".

For complete specifications and prices write the **Enterprise Machine Parts Corporation,** 2727 Jerome Ave., Detroit 12, Michigan. *Advt.*

▲ For more details circle **NED-523 G3** on enclosed inquiry slip ▲

CALCULAGRAPH

figures elapsed time accurately

Reliable job time records are essential for compiling correct cost data, estimating reorders and checking on production efficiency. One sure way to secure accurate to the minute, dependable time costs is to use Calculagraph automatically-figured elapsed time records. Calculagraph gives you total elapsed time, starting and finishing time and date on a permanent, printed reference card. Eliminate losses due to inaccurate job time calculations by using Calculagraph to time your operations.

Write for full information today to Dept. A.

CALCULAGRAPH COMPANY
SUSSEX STREET, HARRISON, NEW JERSEY

▲ For more details circle **NED-524 G3** on enclosed inquiry slip ▲

MINIATURE MOTORS
400-cycle unit rated 1/100-hp

With diameter of only 1 in., EAD miniature motors, designed for fans, blowers, instruments, controls and low-power drives, will operate in confined areas where size and weight are restricted. With maximum 115-v input, motors can be used for single, two or three phase 400-cycle operation at running speeds of 10,500 and 21,000 rpm and for single or two phase 400-cycle operation at 7000 rpm. Ratings of about 1/100-hp are obtained with 400-cycle unit. Modifications include high ambient and high altitude versions, as well as servo, hysteresis synchronous and gear motors. Standard model D 21UHP-1 weighs 3½ oz. Made by **Eastern Air Devices, Inc.,** 585 Dean St., Brooklyn 17, N. Y.

▲ For more details circle **NED-525 G3** on enclosed inquiry slip ▲

SEALED TERMINAL
miniature compression type

Severe vibration and shock do not affect the hermetic seal of this miniature compression type terminal. Unit consists of a tinned brass terminal stud, steatite insulators and a Silicone rubber seal, the latter being compressed between the insulators to form a seal. Entire assembly is 7/32 x ⅝-in. Exposed silicone rubber seal is water repellent and serves to break the moisture path from terminal stud to ground. Temperature range of unit is −65 to 500° F. Applications include mounting components on a terminal board and terminal heater assemblies. Made by **Torwico Electronics, Inc.,** Dept. NED-7, 961 Frelinghuysen Ave., Newark, N. J.

▲ For more details circle **NED-526 G3** on enclosed inquiry slip ▲

WATER GAGE ILLUMINATOR
uses spot beam mercury lamp

Boiler water gage illuminator provides a brilliant illumination of the water meniscus, and is enclosed in a sheet steel housing which attaches readily to the water gage insert. It is especially recommended for conditions where gages are 40 ft or more from the operating level as it assists in transferring the meniscus image to the floor stand mirror or to the eye of the operator. It can be used at lesser heights if a particularly bright image is desired or where murky atmosphere or light from other sources impairs visibility. Made by **Reliance Gauge Column Co.,** 5904 Carnegie Ave., Cleveland 3, O.

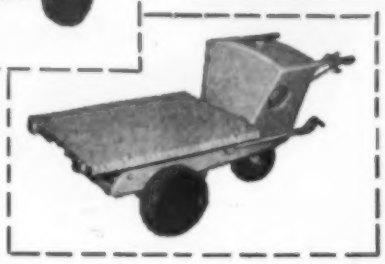
▲ For more details circle **NED-527 G3** on enclosed inquiry slip ▲

LINE FAULT ANALYZER
locates power line faults

Most of time, work and hazard in locating power line faults at ranges from ½ to 200 miles are eliminated through use of model 124 line fault analyzer. It operates from any powerhouse, transformer bank or substation to pinpoint shorts, grounds or open circuits instantly. Instrument is lightweight, weatherproof, portable and unaffected by climatic conditions and change in line spacing. It is direct reading, simple to operate and is quickly attached to any line using carrier coupling capacitors. Operation is on radar techniques, with a 105/125 v ac power supply required. Made by **Sierra Electronic Corp.,** 1050-N Brittan Ave., San Carlos 2, Calif.

▲ For more details circle **NED-528 G3** on enclosed inquiry slip ▲

BULK HANDLING WITH Bell PRIME-MOVER



Bucket and Platform interchangeable in a jiffy. Handle up to ¾ ton load — up grades and down — through narrow aisles and doorways.

MOVE your materials — bulk or packaged — with equipment not limited to specific jobs—consolidate those intermittent handling jobs, outdoors or in confined areas—supplement and relieve your specialized equipment and complete the mechanization of your materials handling.

If you're processing bulk materials—disposing of waste and scrap—using materials in maintenance or construction—shifting heavy maintenance equipment—maintaining grounds—or loading, unloading bulk or packaged goods from cars, toss your problems on the Prime-Mover and get the job done—quickly and economically. Prime-Mover Co., Muscatine, Iowa.

▲ For more details circle **NED-529 G3** on enclosed inquiry slip ▲

they're SELF-LOCKING

IN ANY POSITION

on a threaded member

FLEXLOCs stay put in any position on a bolt or stud the moment the locking threads are fully engaged; they do not have to be seated. And FLEXLOCs stay tight, no matter how severe the vibration; are one piece, all metal; can be used repeatedly. One nut covers a temperature range up to 550° F. See your local industrial distributor for literature and samples or write SPS, Jenkintown 24, Pa.

Our Fiftieth Year : A START FOR THE FUTURE

FLEXLOC LOCKNUT DIVISION

SPS
JENKINTOWN PENNSYLVANIA

▲ For more details circle **NED-530 G3** on enclosed inquiry slip ▲

THREE REASONS WHY SOME PEOPLE ARE PENNY-WISE AND POUND FOOLISH ON SOAP COSTS

1 Defective Dispensers

2 Inefficient Soap

3 Slow Acting Soap

Defective or obsolete dispensers (wasting soap), inefficient soap (causing dryness, chapping, etc.) and slow sudsing soap (causing congestion in washrooms—you pay for the "lost time") are just three of many reasons why you may be throwing away hundreds of soap dollars in your plant washrooms.

Get the answer to these and other questions about your soap costs the easy way. Mail the attached coupon for a FREE "SBS-Soap-Saver-Survey" today at absolutely *NO Obligation* on your part.

SUGAR BEET PRODUCTS CO., SAGINAW, MICHIGAN
Chemical By-products Division • Established 1909
MANUFACTURERS OF THE COMPLETE LINE OF SBS INDUSTRIAL SKIN CLEANSERS

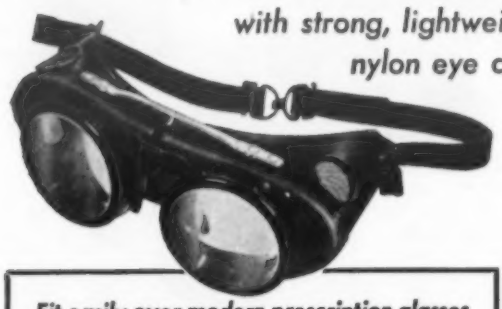
91

SUGAR BEET PRODUCTS CO., Dept. 6F, SAGINAW, MICHIGAN
Yes—we want a cost reducing "SBS Soap-Saver-Survey" of our plant without charge or obligation.
NAME_____
TITLE_____
COMPANY_____
CITY_____ ZONE____ STATE____

▲ For more details circle **NED-531 G3** on enclosed inquiry slip ▲

NEW WILLSON
Kover-Mor Goggles

with strong, lightweight nylon eye cups



Fit easily over modern prescription glasses . . . use standard 50 mm. round lenses

THEIR IMPROVED DESIGN provides a snug, comfortable fit with ample room for modern large-frame prescription glasses. Sturdy eye cups are molded of tough, non-flammable nylon. Standard 50mm. Super-Tough® lenses used are easily replaced. Well ventilated two ways. Metal top bar is standard on Kover-Mor Goggles.

WILLSON® "Established 1870"

Ask your Willson distributor for new Kover-Mor Goggles*
*Trademark

WILLSON PRODUCTS, INC. • 219 Washington St. • Reading, Pennsylvania

▲ For more details circle **NED-532 G3** on enclosed inquiry slip ▲

Threads 4 sizes of pipe *fast* with 1 set of dies— *and it won't jam!*

RIDGID
65R PIPE THREADER

This popular 65R has saved millions of hours of threading time, and no wonder—its one set of self-contained high-speed dies adjust to 1", 1¼", 1½" or 2" pipe size in 10 seconds! Mistake-proof self-centering workholder sets instantly! And lead screw won't jam on workholder, kicks out automatically at standard thread length! You can't match it for fast easy pipe threading—buy it at your Supply House.

THE RIDGE TOOL COMPANY • ELYRIA, OHIO

RIDGID
Work-Saver Pipe Tools

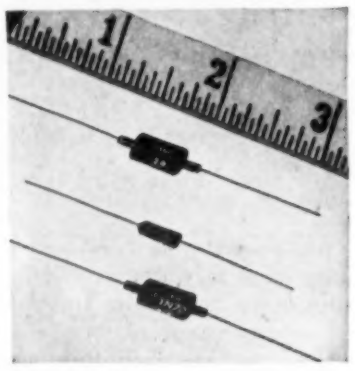
▲ For more details circle **NED-533 G3** on enclosed inquiry slip ▲

TIME SWITCHES
provide dependable on-off switching

Design in series 300 time switches incorporates improvements in the terminal block and in the switching mechanism contact arms. Gains include faster installation, more positive locking in on and off positions, and improved shockproof connections. Switches are suitable for applications involving up to four operations daily, and can be hand-tripped ahead of the automatic setting without disturbing operating sequence. Dial and trippers are set without tools, and an unbreakable window allows operation to be checked without opening the case. Applications include control of sign lighting, stokers and oil burners, intermittent motor operations and display lighting. Made by **Paragon Electric Co.**, Dept. NED, Two Rivers, Wis.

▲ For more details circle **NED-534 G3** on enclosed inquiry slip ▲

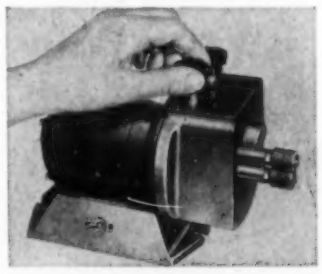
GERMANIUM DIODES
are impervious to moisture



Encasing cartridge of germanium diodes in line of 19 point-contact units is composed of a plastic material that is impervious to moisture and possesses good electrical characteristics and mechanical stability at high temperatures. Stiff terminal pins permit clipping into spring terminals and flexible leads permit soldering or other connection means. Diodes are vacuum impregnated with an inert wax and will withstand severe temperature-humidity cycling without failure. Made by **National Union Radio Corp.**, Transistor Div., Jacksonville Rd., Hatboro, Pa.

▲ For more details circle **NED-535 G3** on enclosed inquiry slip ▲

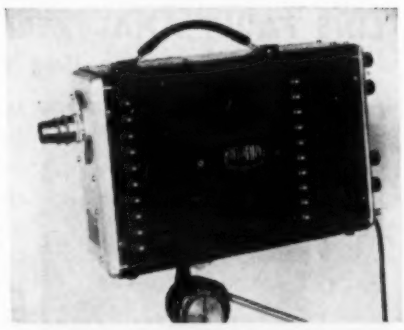
WIRE STRIPPER
for fine magnet wires



High production stripping of film insulation from very fine magnet wires can be performed by the model R-1 Midget wheel type wire stripper. Built-in space regulating screw limits minimum spacing between wheels and prevents breaking wires or reducing their diameter. Pressure regulator allows wheels to separate as wires enter and brings them back to the fixed setting for stripping. Made by **Eraser Co.**, Rush Wire Stripper Div., 1062 S. Clinton St., Syracuse 4, N. Y.

▲ For more details circle **NED-536 G3** on enclosed inquiry slip ▲

TELEVISION CAMERA
self-contained, closed-circuit unit



Tel-Eye closed-circuit miniature television camera unit is a complete camera chain with all associated power, synchronizing, radio frequency, monitor-equipment, plus the camera itself, contained in the small camera head about the size of a portable typewriter case. Portable unit can be used with any standard vhf television receiver by plugging it into a standard wall socket and attaching the camera's output cable to the television receiver. It will feed multiple receivers with good pictures at distances up to 2000 ft. Made by **Allen B. Du Mont Laboratories, Inc.**, Television Transmitter Div., 1050 Main Ave., Clifton, N. J.

▲ For more details circle **NED-537 G3** on enclosed inquiry slip ▲

ACROMARK

THE ACROMARK COMPANY
7-11 MORRELL ST., ELIZABETH, NEW JERSEY

▲ For more details circle **NED-538 G3** on enclosed inquiry slip ▲

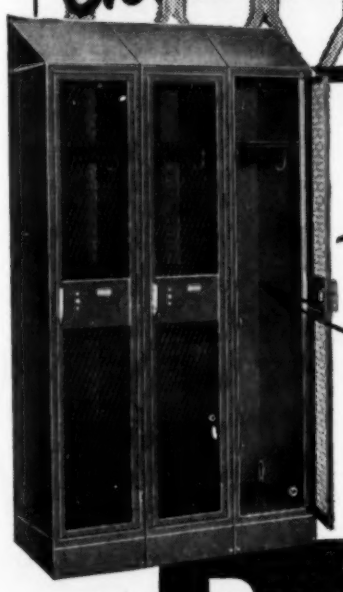
Lindberg Air or Hydraulic Cylinders provide dependable, low cost power for lifting, forcing, pulling, pressing, pushing and clamping. Ask for bulletin No. 701, "Lindberg Hydraulic Cylinders" . . or No. 731, "Lindberg Air Cylinders."

***LINDBERG* CYLINDERS** *AIR HYDRAULIC*

Lindberg Engineering Company, 2482 West Hubbard St., Chicago 12, Ill.

▲ For more details circle **NED-539 G3** on enclosed inquiry slip ▲

Keeps Clothes Fresher! *penco*



"AIR-LITE" LOCKER

The steel locker that "breathes" through ¾" mesh door openings—an exclusive Penco feature!

- MAXIMUM NATURAL VENTILATION
- DAMP CLOTHES DRY FASTER
- CONTENTS CAN BE INSPECTED—WITHOUT OPENING DOOR
- SAFE, PILFER-PROOF STORAGE
- PENCO QUALITY CONSTRUCTION
- SINGLE AND DOUBLE TIER TYPES—IN A WIDE RANGE OF SIZES

Send for complete locker catalog

85TH YEAR OF SERVICE

PENN METAL *Corporation of Penna.*
82 OREGON AVE., PHILA. 48, PA.

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Today's best buy for clerical savings on payroll, inventory and cost records

Send for facts on the new Remington Rand LOW-COST bookkeeping machine.

Free booklet tells you how to get

1. Complete description
2. Complete figuring
3. Complete records
4. Touch-method speed
5. Typewriter simplicity

Small or large plant, you can cut your overhead and keep your records up-to-date with this new low-cost machine accounting method. All the basic money-saving advantages of a top-price descriptive machine are yours for only a fraction of the original investment.

Write direct to Remington Rand Inc., Room 2929, 315 Fourth Avenue, New York 10, N. Y. for your copy of folder AB664

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the *New* SAF-HED-HAT of FIBER GLASS

Fiber Glass offers Greatest Strength-Weight Ratio

- Greater strength — Longer life
- Rugged one piece molded seamless crown
- Lightweight — Comfortable
- No warping from heat or moisture
- Highly resilient — will not split, crack or deform
- Meets A.S.A. Code for dielectric tests
- Exceeds A.S.A. Code for impact resistance
- Attractive, dark green color, streamlined appearance

Write for literature and prices

UNITED STATES SAFETY SERVICE CO.
KANSAS CITY 6, MISSOURI — BRANCHES IN PRINCIPAL INDUSTRIAL CITIES
In Canada PARMELEE, LTD. Toronto — Montreal

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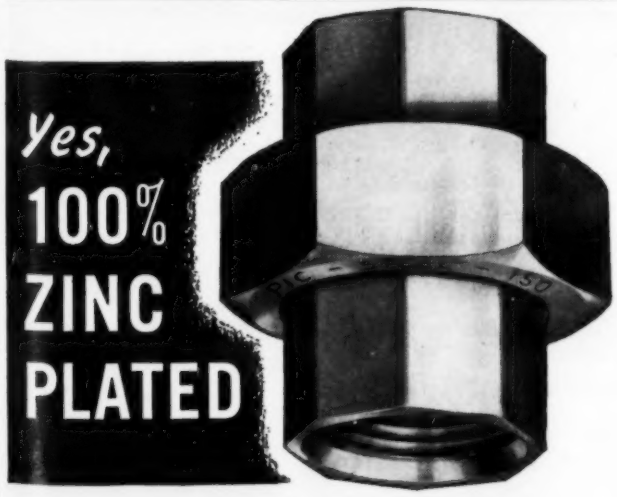

PIC STEEL UNIONS*

Rust can't get a foothold on these bright, cheerful-looking unions that blend so well with original equipment. Even the threads are zinc plated. Pics install speedily with open end wrenches — ends are uniformly flat-sided, uniformly parallel. They're strong too — of heavy steel pipe coupling stock. Special wedge type bronze seat for tight security. Pics are a "buy" price-wise also — they cost *less* than a galvanized, no more than a black malleable union.

*For 150 # Service — Write for FREE Samples

DART UNION COMPANY
132 THURBERS AVENUE, PROVIDENCE 5, R. I.

▲ For more details circle **NED-543 G3** on enclosed inquiry slip ▲

SWITCH-RELAYS are solenoid-actuated types

Meeting or surpassing military and commercial specifications, solenoid-actuated Microswitch relays are designated as series 57. Units satisfy high and low temperature, material, insulation, vibration, shock and acceleration requirements and are offered with choice of four Micro switches. Nominal voltage is 24-28 v dc and maximum operating voltage is 29 v dc. They are rated for continuous duty and will withstand a minimum of 25,000 operating cycles. Size is 2 1/16 x 1 9/16 x 2 5/16 in. Made by **Electrical Products Corp.**, 1110 N. Main St., Los Angeles, Calif.

▲ For more details circle **NED-544 G3** on enclosed inquiry slip ▲

FLOOR MACHINE versatile, for moderate usage

Designed for the small shop, office, restaurant club or showroom, the Special 12 floor machine can be used for waxing, scrubbing, shampooing rugs, sanding or buffing with the various quick change attachments available. Unit is 11-in. high, convenient to use under fixed furniture and in confined quarters. Handle is adjustable to give convenient operating height. Safety features include finger-tip controlled hard rubber contact trigger switch and wire whisker in the brush that prevents static sparks. Made by **S. C. Johnson & Son, Inc.**, Dept. NED, 1525 Howe St., Racine, Wis.

▲ For more details circle **NED-545 G3** on enclosed inquiry slip ▲

FOOT SWITCH internal switching action improved

By using long-life single-pole double-throw "du.-op" limit switch, internal switching action has been improved in type MA foot switch. Access to the internal switch terminals is facilitated by removable front end of the two-piece top casting. Actuating treadle requires only very light foot pressure. Cable enters switch through front by means of BX connector or rubber grommet, as specified. Mounting is by means of holes in housing. Made by **General Control Co.**, 1211 Soldiers Field Rd., Boston 34, Mass.

▲ For more details circle **NED-546 G3** on enclosed inquiry slip ▲

INTERCOMMUNICATION SYSTEM permits confidential conversations

Advantages of both confidential conversation and time-saving across-the-room reply are combined in this multiple handset intercommunication system. A handset station is installed in the location where people are within earshot. Voice is amplified to the required volume level and is clearly heard through a staff station. Reply is heard only by person using the handset. Any number of handset stations can be used, with a red busy light on the handset station shown when it is in use. Made by **Executone, Inc.**, Dept. C, 415 Lexington Ave., New York 17, N. Y.

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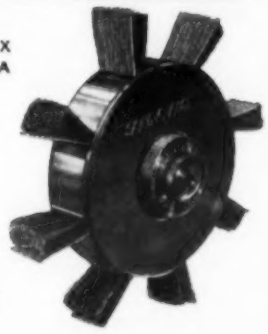
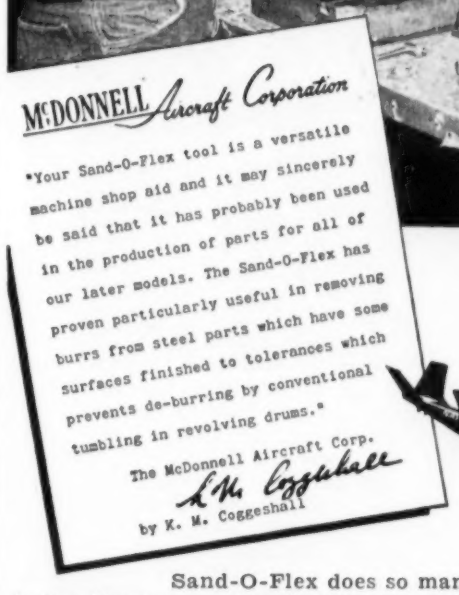
▲ For more details circle **NED-548 G3** on enclosed inquiry slip ▲

SAND-O-FLEX
MODEL 550A



SAND-O-FLEX solves tough deburring jobs

. . . *at McDonnell Aircraft*


McDONNELL Aircraft Corporation

"Your Sand-O-Flex tool is a versatile machine shop aid and it may sincerely be said that it has probably been used in the production of parts for all of our later models. The Sand-O-Flex has proven particularly useful in removing burrs from steel parts which have some surfaces finished to tolerances which prevents de-burring by conventional tumbling in revolving drums."

The McDonnell Aircraft Corp.
by K. M. Coggeshall

Sand-O-Flex does so many jobs so much better. If you have a tough deburring or finishing problem on complex parts, you need Sand-O-Flex. Simply fasten a Sand-O-Flex to any rotating shaft (motor, lathe, electric drill, etc.)—no special equipment necessary. As it spins, the brushes cushion the abrasive cloth and mold it to intricate work shapes, "wiping" burrs from complex surfaces. A central magazine holds the abrasive cartridge and as it wears, it is fed out by hand in a matter of seconds. Abrasives are furnished in many grits for a wide variety of finishes on all types of metals. Four models—from small portable applications to heavy-duty production line uses.

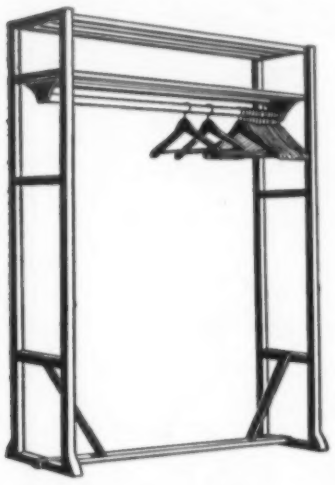
For free catalog and prices, write to

MERIT PRODUCTS, INC., 4023 IRVING PLACE, CULVER CITY, CALIFORNIA

▲ For more details circle **NED-549 G3** on enclosed inquiry slip ▲

Checkerette

This "knock-down" wardrobe rack answers almost any "wraps" problem, because it can be set up anywhere in a few minutes without nuts, bolts or tools . . . can be disassembled and stored in small space when not in use. It is ideal for installation near point of work, occupies only 1′ x 4′ floor-space; is ideal for company cafeterias, offices, laboratories and meeting rooms.



It will hold wraps by day and shop coats at night and keep both aired and dry.

Modern, efficient designs, welded steel construction, rigid in use (all members held under tension).

Write for Circular CT 08

VOGEL-PETERSON CO.
1121 West 37th St. • Chicago 9, Ill.

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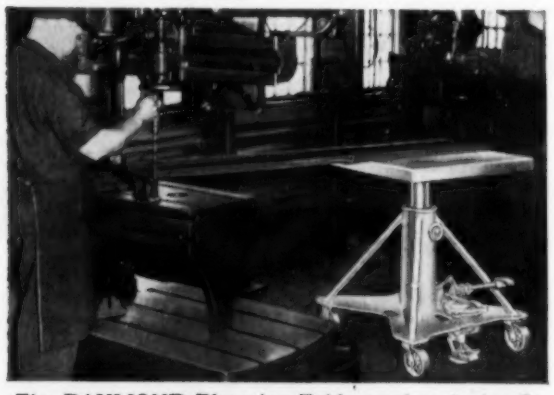
He "Positions" his work

. . . you can too, with

RAYMOND

PORTABLE ELEVATING TABLE

Take a tip from your barber and elevate your work to the most convenient working level! Get a RAYMOND Portable Elevating Table . . . you'll use it for die handling, sheet feeding, work positioning, loading and unloading.



The RAYMOND Elevating Table employs hydraulic power to do all your lifting and lowering. Sturdy 30″ square top can be rotated when desired—convenient foot pump frees operator's hands. Smooth-rolling casters make table highly portable. Floor lock holds it securely in place. Standard Model elevates from 28″ to 44″—Telescopic Model from 28″ to 50″. Both have 2,000 lb. capacity.

GET THIS BULLETIN Mail coupon today . . . and we'll send you Bulletin 232, describing RAYMOND Portable Elevating Tables in detail!

The RAYMOND CORPORATION
4109 Madison Street, Greene, N.Y.

Please send me Bulletin 232 on your Portable Elevating Table.

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COMPANY_____

STREET_____

CITY_____ STATE_____

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New Literature and Catalogs

Filtration Equipment Case Histories

U. S. Hoffman Machinery Corp., Industrial Filtration Div.—How two companies are making use of central filtration equipment for processing cutting oils and coolants is detailed in two 4-page illustrated case studies. Companies use a variety of production machines. The problem, its solution and other details are related.

▲ For more details circle NED-552 G3 on enclosed inquiry slip ▲

Operating Your Fork Truck

Lewis-Shepard—"Operating your SpaceMaster Fork Truck" is title of an informative booklet which passes on operating tips to new users and presents information to potential users of any fork truck equipment. Suggested training program is included step-by-step, and the importance of preventive maintenance is stressed. Nineteen safety do's and don't's are listed.

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Water Soluble Natural Gum

Morningstar, Nicol, Inc.—General information on the origin, physical and chemical properties and mesh specifications of Gum Arabic, a water soluble natural gum, are found in technical service bulletin G-101. Suggested uses in chemical specialties, coatings and sizings are presented.

▲ For more details circle NED-554 G3 on enclosed inquiry slip ▲

Ceramics Properties

American Lava Corp.—Forming a reference guide to the mechanical and electrical properties of Alsimag ceramics, 4-page technical data sheet 531 gives ASTM test results on vitreous ceramic materials, lava and refractories in clear chart and tabular form. Guide contains application suggestions for the various grades, 17 of which are treated.

▲ For more details circle NED-555 G3 on enclosed inquiry slip ▲

Investment Casting

Investment Casting Co.—12-page booklet tells the story of the investment casting process in photo caption style, showing applications, advantages and procedure. This process, sometimes called the "lost wax process," can hold close dimensional tolerances and fills the gap between sand and die casting methods.

▲ For more details circle NED-556 G3 on enclosed inquiry slip ▲

Optical Tooling Instruments

Farrand Optical Co.—Described and illustrated in three technical bulletins are instruments used in optical tooling methods in aircraft construction. Instruments covered are alignment telescope, optical square and optical tooling accessories.

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How to bond steel's **brawn** to aluminum's **lightness**

Alumibond. unique casting of aluminum to ferrous metals

An amazing new process—ALUMIBOND—enables you to combine the best qualities of aluminum and ferrous metals. If you have problems involving heat transfer, joining, weight saving, exidation resistance, bearing surfaces—Alumibond can do an unusually successful job for you providing bond strength of 18,000 psi at interface junctions. Leading engineers now employ Alumibond to aid resistance to corrosion, for greater conductivity or heat dissipation, for more free machinability. In hundreds of similar applications, Alumibond can solve your design and production problems.

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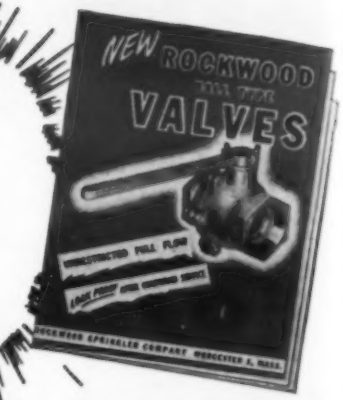
The valve that's breaking records



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Ideal for handling water, air, carbon dioxide, nitrogen, alcohol, paper fluids, paraffin and asphalt base petroleums and many other liquids and gases. Tested by Underwriters' Laboratories, Inc.

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Write Dept. O., Stoughton, Mass.

BROOKFIELD ENGINEERING LABORATORIES, INC.

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Only the new BREADY provides the advantages of automatic fluid drive. Automatic type POWER-FLO assures smooth easy operation . . . infinitely variable speeds forward and reverse . . . full use of horsepower . . . minimum maintenance. This new drive automatically increases drawbar pull when more power is needed. It eliminates gear shifting, belts and pulleys, sudden jerky starts, shock and strain. The BREADY POWER-FLO tractor is sturdily built for continuous usage, and a complete line of attachments adapts it to all types of jobs.

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Bready 1211-UT

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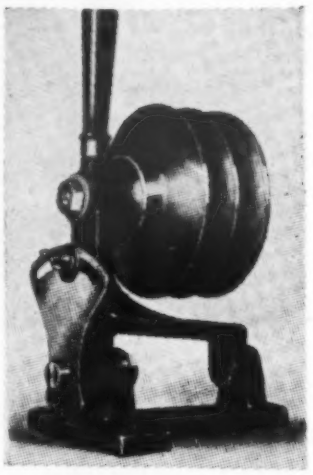
VARIABLE SPEED CONTROL



Variable speed control of V-belt and equipment up to a maximum 3 to 1 ratio is provided by this single lever controlled unit. Mechanically simple in design and sturdily constructed to withstand hardest service, models 1A and 2A Toledo variable speed controls have numerous unique features including: plain, smooth pulley, eliminating noise and vibration; stepless speed variation up to full 3 to 1 ratio; minimum pulley diameters are increased to transmit greater H.P. over entire range; new pulley design providing cylindrical bottom for V-belts which fixes minimum pitch diameter, preventing damage to belts and giving increased torque; single arm support, for easy belt application; large shaft, oilite bearings and lubricant reservoir; sector plate serving as dial indicator and additional locking medium; unusually attractive prices.

Wheel assemblies can also be purchased without mountings for application on machines providing built-in speed control.

If you have a variable speed control problem, either on plant equipment or on machinery you build for sale, investigate the Toledo variable speed control . . . you'll be interested in its efficiency and low price. Ratios as high as 10 to 1 are available. **The Toledo Timer Co.,** 2224 Albion St., Toledo, O. Adv.

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Catalog on request. Ask your Boston Gear Distributor, or write: Boston Gear Works, 69 Hayward Street, Quincy 71, Mass.

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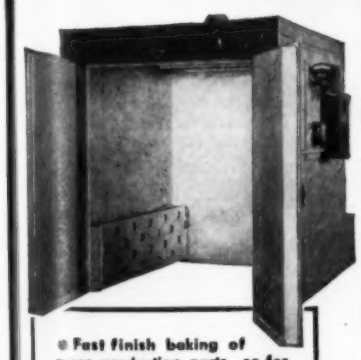
"Any Way You Figure"

Up to 50% Faster Baking



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New Processes and Materials

PLASTIC TAPE for electrical applications

Containing a pressure-sensitive compound, this electrical splicing tape resists weather, corrosive chemicals, water, oils and abrasion. It is thin and has high tensile strength, high adhesive qualities and conforms to irregular surfaces. Dielectric strength averages over 1000 v per mill of thickness, to meet Underwriters', U.S. and ASTM specifications and standards. Tape comes in 60 and 20-ft rolls in ¾-in. width and in 12½-ft roll with ½-in. width. Made by **Boston Woven Hose & Rubber Co.,** Dept. 608-3, P. O. Box 1071, Boston 3, Mass.

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MAGNESIUM FINISH provides protective coating

Once treated with Iridite No. 15 Mag-Coat, magnesium has its surface converted into a new and chemically different surface. Dark brown in color, the resulting film is resistant to atmospheric corrosion, as well as to corrosion from some chemical sources. Film is an integral part of the metal and will not chip, flake or peel when bent. Treatment causes a slight dimensional change, the degree depending upon immersion time. Film is produced by immersing parts in a room temperature solution that requires no special equipment or operators. Application can be to wrought, cast or extruded magnesium for final finish or as base for paint. Developed by **Allied Research Products, Inc.,** 4004-06 E. Monument St., Baltimore 5, Md.

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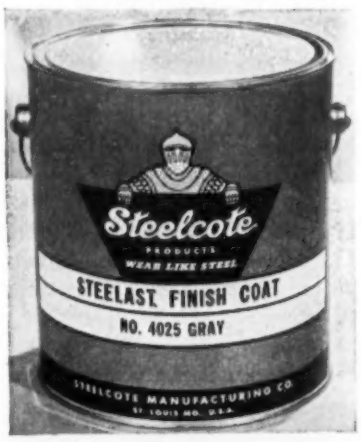
PLASTIC METAL COATING now available in many colors



Using a vinyl plastic vehicle, Steelast metal coating is now obtainable in gray, ivory, green, red, orange and yellow as well as black, and white. Coating produces a tough film which is impervious to moisture, resists most chemicals and is odorless and non-toxic when dry. Applications can be on machinery, pipes, tanks, duct work and metal building materials, both indoors and out. Material can be sprayed, brushed or dipped and withstands constant wet heat up to 180° F and dry heat up to 300° F. It dries to handle in 30-60 minutes after spraying; 2 to 3 hours for recoating; or can be force dried in 10 minutes. One gallon covers up to 600 sq ft. Developed by **Steelcote Mfg. Co.,** Dept. 1-A, 3418 Gratiot, St. Louis 3, Mo.

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COPPER-CLAD ALUMINUM metals are inseparably bonded

Marketed at prices 15 to 30 per cent lower than an equivalent amount of copper or brass, Alacuplate copper-clad aluminum offers many economies. Consisting of layer of aluminum on which a relatively thin layer of copper is clad on one or both sides, this material is now offered at lowered prices. It is an excellent conductor of heat and electricity, is easy to fabricate and solder or electroplate and is offered in soft condition or in usual range of cold-worked tempers. It is malleable enough for intricate forming or drawing. Common thickness ratios are 80 per cent aluminum and 20 per cent copper, 9/10 and 10/80/10. Sheet or strip is usually supplied up to 1/16-in. thick and up to 12½ in. wide. Made by **Metals & Controls Corp.,** General Plate Div., 1500 Forest St., Attleboro, Mass.

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this time-study saves you money!

BUSINESSES SAVE HOURS EACH DAY

Actual time studies taken in hundreds of businesses show that an average of 18 seconds is required to make an "inside" speech contact through the switchboard. With *your own* AMPLICALL "clear line" *internal* communication system —you get *2-second speech contact* within and between departments. AMPLICALL frees busy switchboards for important outside calls —keeps personnel *on the job*, keeps talk terse—saves hours each day for the average business. AMPLICALL saves you money—pays for itself. There is a system to fit your special needs. Get the full facts today!

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FOR THE METAL WORKING INDUSTRY

CHIP-TOTE conveyors increase machine tool production by continuously removing chips, turnings and borings. There's no need to shut down productive machinery for manual scrap removal — CHIP-TOTES do the job automatically while the machines are operating. Write for Bulletin MF-640.

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CONVEYING AND SPECIAL EQUIPMENT for the metal working industry is our specialty. A single unit to solve one handling problem or a complete plant-wide system to mechanize all operations can be furnished. Because we fabricate equipment from mass-produced standard parts, we assure maximum economy and quick delivery. Write for catalog.

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COMPANY_____
STREET_____
CITY_____ ZONE____ STATE_____

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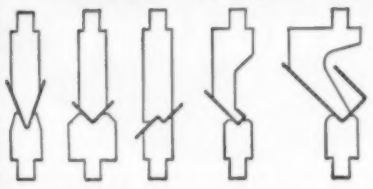
BRAKE DIES



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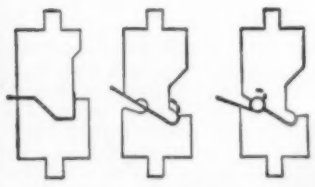

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An all-purpose portable belt conveyor, work table and straight-line production system, with and without side leaves. Available up to 100 ft. long in 10 ft. easily assembled sections.

PORTABLE OR STATIONARY

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For more details circle NED-573 G3 on enclosed inquiry slip

New Literature & Catalogs

Instrument Ball Bearings

New Hampshire Ball Bearings, Inc.—28 pages of dimensional and design data on 137 Micro ball bearings for use in instruments are included in illustrated catalog No. 53. Bore sizes range from 0.025 to 5/16-in. and outside diameters from 0.100 to ½-in. Loads, speeds, mounting, lubrication, tolerances, gaging and handling of instruments are also covered.

For more details circle NED-574 G3 on enclosed inquiry slip

Can & Container Machinery

E. W. Bliss Co.—In 32-page catalog 36-A are illustrations and specifications for both automatic and semiautomatic can and container making machinery. Included are slitters, bodymakers, seamers, flangers, beaders and testers, plus numerous special purpose machines.

For more details circle NED-575 G3 on enclosed inquiry slip

Potentiometers

Edcliff Instruments—14-page illustrated and looseleaf bound catalog "The Answer Is Instrumentation" presents general features, dimensional drawings and specifications of line potentiometers. Types included are linear motion, dual linear motion and triple linear motion and a pendulum position indicator.

For more details circle NED-576 G3 on enclosed inquiry slip

Rubber Lining of Steel

Metalweld, Inc., Protective Coatings Div.—Advantages and application of MW rubber lining to steel tanks, drums, pipes, valves, fittings and pumps are considered in 8-page bulletin. Tables give resistance characteristics to inorganic acids, salts and alkalies, organic materials and others. The B. F. Goodrich Vulcalock bonding process which joins rubber and steel with 500-psi bond strength is described as well.

For more details circle NED-577 G3 on enclosed inquiry slip

Securing Results from Research

Commonwealth Engineering Co. of Ohio—"Ideas Into Dollars" is title of 12-page well-illustrated bulletin which brings out a new approach to securing practical results from research. It depicts how a mechanical, electrical, electronic, chemical or bacteriological research project is carried out from the idea to the pilot plant or model to final production in the complete plant.

For more details circle NED-578 G3 on enclosed inquiry slip

Protective Devices

Multi-Amp Corp.—"Do Your Protective Devices Really Protect?" For the answer, send for 12-page illustrated booklet with this title which explains importance of current-actuated protective devices, such as overload relays, circuit breakers, etc., and gives step-by-step instructions for testing and calibrating them in the field.

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TIME SAVING
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IPCO EXTENSION CORD REEL

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Install an Allis-Chalmers dry-type transformer right next to the load it serves — on overhead trusses, walls, platforms, or directly on the machine. You'll get higher motor, lighting, and thermal efficiency, resulting in economical utilization of power.

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ALLIS-CHALMERS A-C
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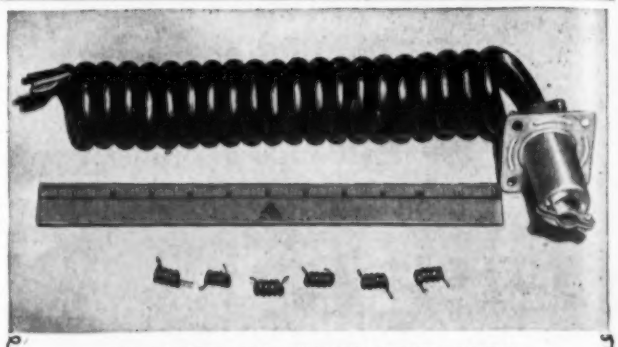

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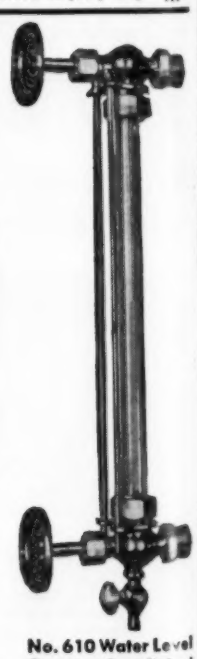
For more details circle NED-582 G3 on enclosed inquiry slip

Get your WATER LEVEL GAUGES from CRANE



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Here's an item that usually rates small attention in an over-all piping program. But make no mistake, there's nothing lacking in quality when you get it from Crane. Materials are the finest—workmanship the best, to assure the service and satisfaction you expect from a product that bears the Crane name. See your Crane Representative or Crane Catalog for complete details.

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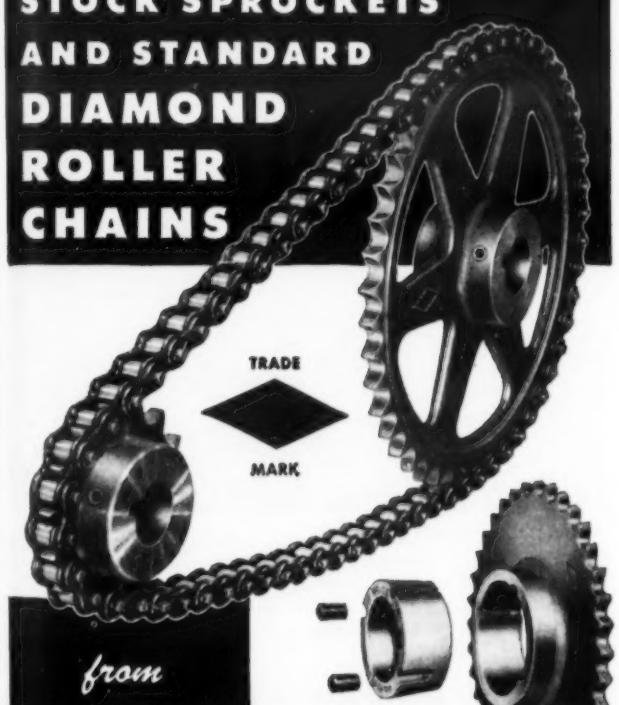

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STRUCTURAL GLASS
designed for brightness control

Designed for use with light-directing glass block panels and building areas which require brightness control, Dusklite flat glass is composed of two layers of window glass laminated with an inner layer of neutral grey vinyl plastic. It is shatterproof and recommended for glazing elevations facing east, south and west and points in between that are subject to exposure by direct sunlight. Visible light transmittance is about 25 per cent and solar heat transmittance approximates 50 per cent. Standard 7/32-in. thickness is offered in sizes up to 15 sq ft. Made by **Pittsburgh Plate Glass Co.,** Dept. NED, 632 Duquesne Way, Pittsburgh 22, Pa.

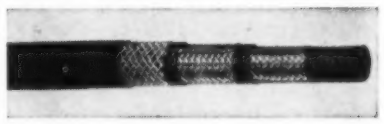
For more details circle **NED-586 G3** on enclosed inquiry slip

MANILA ROPE
six sizes in individual cartons

Coils of American Brand manila rope are being offered in individual cartons with a center punch-out for withdrawing the rope without removing the coil and thereby eliminating kinks. Four sizes, ¼, 5/16, ⅜ and ½-in., are available in 600 and 1200-ft coils, while ⅝ and ¾-in., sizes are packed in 600-ft coils only. Cartons stack well and are easy to handle. Offered by **American Mfg. Co.,** West St., Brooklyn 22, N. Y.

For more details circle **NED-587 G3** on enclosed inquiry slip

HYDRAULIC CONTROL HOSE
withstands pressures up to 5000 psi



Reinforcement with fine high-tensile steel wire gives high flexibility and burst resistance under shock loads to this hydraulic control hose, with specially compounded rubber to resist all common hydraulic fluids. Flexibility is retained at temperatures from −40 to 250° F. Rubber cover is cross-wrapped to protect the carcass against weather, mildew, oil, grease and fumes. Sizes from 3/16 to 2 in. ID are available. The hose has been specially developed for use on mobile equipment, industrial trucks, machine tools, and mining and oil field machinery. Made by **Quaker Rubber Corp.,** 4905 Comly St., Philadelphia 24, Pa.

For more details circle **NED-588 G3** on enclosed inquiry slip

EXPANDED PLASTIC
available in any size and shape

Weighing 5 to 8 lb per cu ft, Strux cellulose base plastic is now available in any size and almost any shape through new extrusion and assembly gluing techniques. This material is light and buoyant, and in the 7-lb density has a compressive strength of approximately 200 lb per sq in. It is useful in such applications as reinforcement for aircraft control surfaces, filler blocks under fuel cells and as a core in sandwich construction. It is easily bonded to glass cloth and mat and to metal and wood with polyester or other resins. Illustration shows a buoy made wholly of the material. It also has good temperature stability. Made by **Strux Corp.,** 15 S. Twelfth St., Lindenhurst, L. I., N. Y.

For more details circle **NED-589 G3** on enclosed inquiry slip

NEW 16-page CATALOG gives all the facts on the

REVOLUTIONARY *Sier-Bath* *Flexible* GEAR COUPLINGS

Illustrates These *Sier-Bath* Advantages:
- 3/5 Usual Size, 1/2 Usual Weight
- Assembled, Uncoupled in seconds!
- Slash assembly costs, down-time

Send for FREE COPY

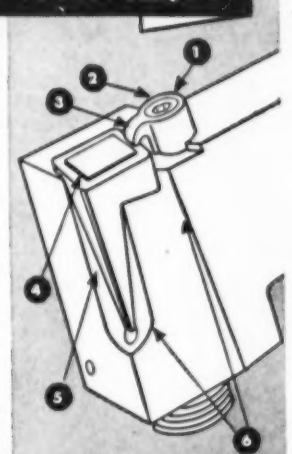
Gives design explanation, advantages, application . . . complete technical data on all types . . . engineering information, etc. Standard types (below) sizes ⅞ to 6, HP 4 to 600 per 100 RPM. Special types, sizes to order. Ask your Distributor, Representative, or write us.

***Sier-Bath* GEAR and PUMP CO., Inc.**
9240 Hudson Blvd., North Bergen, N. J.
Established 1905 Member A.G.M.A.

Also manufacturers of Precision Gears, Screw and Gear Pumps

For more details circle **NED-590 G3** on enclosed inquiry slip

NEW! TOP-CLAMP KENNAMATICS give Top Performance



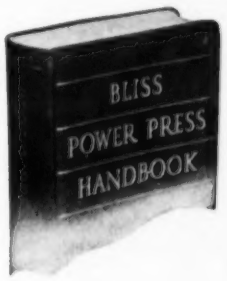
1. **SIMPLIFIED DESIGN**—one rugged clamp and one sturdy screw for all standard tool styles and sizes.
2. **EASY TO GET AT**—double end socket type screw permits release of clamp from either top or bottom.
3. **EASIER TO INDEX**—simply loosen clamping screw and clamp is up and away from insert.
4. **CHIP BREAKER**—most types can be used on insert without interference with clamp.
5. **OPEN FRONT**—provides added clearance and eliminates shank abrasion from "chip wash".
6. **STRONGER**—design provides greater rigidity. Insert is solidly backed up in direction of cutting force.

PLUS } *Extended tool life, simplified tool-setting, less grinding expense . . . Available in all "industry standards."*

KENNAMETAL Inc. LATROBE, PA., U. S. A.

For more details circle **NED-591 G3** on enclosed inquiry slip

Bought your copy yet?



- **700 Pages**
- **450 Illustrations**

"One or Several Are Needed in Every Stamping Shop . . . *American Machinist*"

Sections on: Computing press jobs • Selecting proper press • Useful engineering tables • Die illustrations • Complete glossary • Plus a service section for Bliss presses. **$7.50**

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(Handbook Department)
1380 Raff Road S. W., Canton, Ohio

Rush me a copy of the Bliss Power Press Handbook.

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For more details circle **NED-592 G3** on enclosed inquiry slip

LOWER THE BOOM ON COSTS

SET RIVETS FAST

2 at a time with the

Chicago "214"

● With every press on foot pedal Model 214 Chicago Double Rivet Setter automatically feeds, inserts and clinches *two* rivets. 14-inch throat accommodates large assemblies. Handles 9/64" diameter or smaller steel tubular rivets—lengths to ⅞". Quick Change Rotary Type Hoppers and Raceways permit 5-minute changeover to rivets of different size. Adjustable anvils and riveting centers add to versatility. For help with fastening problem. . . send sample assembly (or a blue print) for free fastening analysis.

FREE CATALOG *contains valuable engineering information and rivet specifications plus illustrated descriptions of 26 Chicago Automatic Rivet Setters.*

Chicago Rivet & MACHINE CO.

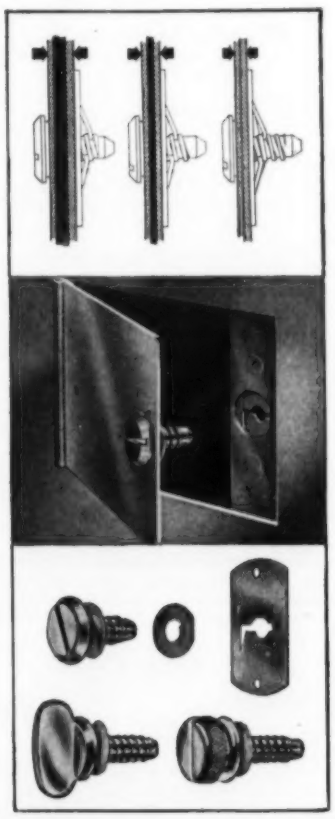
9606 West Jackson Boulevard, Bellwood (Chicago Suburb) Illinois

Branch Factory: Tyrone, Pa.

▲ For more details circle NED-594 G3 on enclosed inquiry slip ▲

through thick or thin—

one fastener



each grip length serves a wide range of thicknesses—to speed assembly and simplify stock requirements

In many ways, you save time and money with Southco Screw Fasteners. In countless applications, the wide grip range is but one of many advantages. Tension is always uniform, never too tight or too loose. A turn of the screw locks or unlocks, instantly. Installation is easy, without special equipment. Tapped holes are eliminated, along with screws, bolts, lock nuts, lock washers, etc. Alignment is not critical because fasteners "float" in the outer panel. Skilled help is not required. Even if access plates or doors or frames become warped, Southco Fasteners continue to perform, easily and efficiently, for the life of the assembly.

You get all these advantages and more, when you use Southco Fasteners. For complete information write Southco Div., South Chester Corp., 1413 Finance Bldg., Philadelphia 2, Pa.

Important for military contractors! Prompt deliveries now possible.

SOUTHCO® FASTENERS

PAWL, SCREW AND SPRING • DRIVE RIVETS
ANCHOR NUTS • ENGINEERED SPECIALTIES

OFFICES IN PRINCIPAL CITIES

WHEREVER TWO OR MORE PARTS ARE FASTENED TOGETHER, STANDARD AND SPECIAL DESIGNS FOR IMPROVED PERFORMANCE AND LOWER PRODUCTION COSTS

▲ For more details circle NED-595 G3 on enclosed inquiry slip ▲

New Literature & Catalogs

Heating Units & Controls

Electro-Therm Inc.—Electrical heating units and controls for a wide variety of uses are featured in 40-page catalog 153. This is a collection of data sheets on the various units, with photographs and complete ordering information. Uses include water and air heating, oil preheating, plating, food processing and the appliance industries. Useful temperature conversion chart is given.

▲ For more details circle NED-596 G3 on enclosed inquiry slip ▲

Switches

Carling Electric Co.—Switches covered in 10-page catalog include toggle type appliance, "snap'n" line, slide, momentary push, push and grounding or shorting switches in various mountings. Also covered are single and double pole switches conforming to Army, Navy and Aircraft specifications. Illustrations and specifications are given.

▲ For more details circle NED-597 G3 on enclosed inquiry slip ▲

Pneumatic Conveying Systems

Convair—Pneumatic systems that are adaptable to both portable and permanent industrial installations for conveying products ranging from abrasives through bolts to yeast are subject of bulletin 104. Line drawings and captions illustrate typical applications. Performance figures are given.

▲ For more details circle NED-598 G3 on enclosed inquiry slip ▲

Industrial Heaters

Westinghouse Electric Corp., Sturtevant Div.—Standard and heavy duty centrifugal fan industrial heaters are detailed in a 32-page catalog 1510. Units are used to heat manufacturing bays, warehouses and other large areas. Where-to-use data, circulating capacities and temperatures and installation are covered, along with how to estimate a heater loading.

▲ For more details circle NED-599 G3 on enclosed inquiry slip ▲

Multipurpose O-Rings

Victor Mfg. & Gasket Co.—All technical data required for specifying and ordering multipurpose O-rings for pressure and dynamic sealing are found in illustrated catalog 700. Line consists of 87 stock sizes from ⅛ x ¼ x 1/16-in. to 15½ x 16 x ¼-in. for either moving or nonmoving seals, plus 52 others for nonmoving sealing uses only.

▲ For more details circle NED-600 G3 on enclosed inquiry slip ▲

Plumber & Machinist Tools

Erie Tool Works—Technical data on line of plumbers, steamfitters and machinists tools, including pipe and Stillson wrenches, pipe vises, pipe threaders, pipe cutters, strap wrenches, cutter wheels and rollers and bar vises, are found in 12-page illustrated catalog 353. Company's unlimited guarantee is described.

▲ For more details circle NED-601 G3 on enclosed inquiry slip ▲

when you go courting lower costs

first check the

SPRAY NOZZLES

used in the system

More exact spray nozzle design...with nozzle capacity better adapted to the character of the liquid being sprayed can often materially improve spraying operations and lower your costs. That's why Spraying Systems Spray Nozzles are worth checking. Thousands of types and capacities to choose from. Designed and built by America's leading spray nozzle manufacturers. The most widely used nozzles in America today among equipment builders and engineering firms.

WRITE TODAY . . . let us send you General Catalog No. 22 and Pneumatic Atomizing Nozzle Catalog No. 23. Scores of Data Sheets also available covering specialized applications.

SPRAYING SYSTEMS CO.

3211 Randolph Street

BELLWOOD • ILLINOIS

▲ For more details circle NED-602 G3 on enclosed inquiry slip ▲

Get a piano-like finish EVERY TIME

with this PORTER-CABLE ORBITAL SANDER *only* $49.50

A Powerful Motor-Driven FINISHING SANDER

Sands in all directions on *any* wood without marring. Can't track, gouge or ripple. Levels glued, butt, miter joints. Blends cross grains, different woods. Light (6 lbs.), balanced—sands in overhead locations, recesses, close to moulding.

Abrasive pad circles at high speed in ¼" orbit. Powerful AC-DC motor—not a vibrator. 4000 RPM under load. Non-stall, trouble-free gearless drive. No oil leakage. Dust-free air intake.

See this powerful 106 Orbital Sander at your Porter-Cable dealer's. Or write to address below for full details.

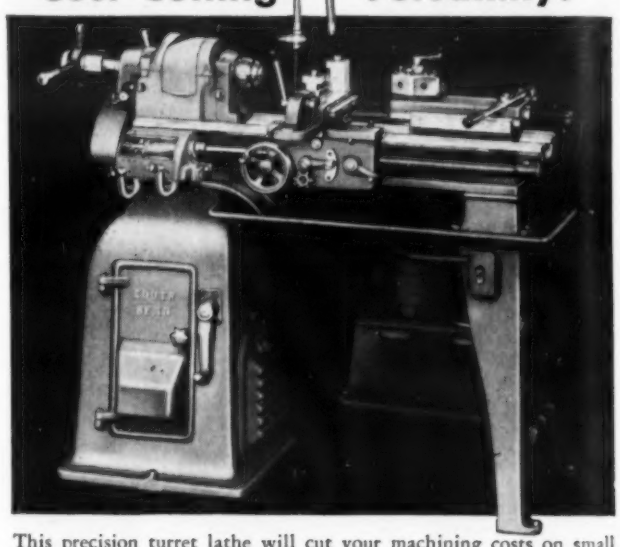
Porter-Cable Machine Co.
1407 N. Salina St., Syracuse 8, N. Y.
(In Canada: Strongridge, Ltd., London, Ont.)

Porter-Cable *Quality Electric Tools*

▲ For more details circle NED-603 G3 on enclosed inquiry slip ▲

SOUTH BEND 1000 Turret Lathe

Cost-Cutting Versatility!

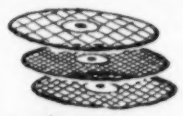


This precision turret lathe will cut your machining costs on small parts. Its accuracy, ease of operation and wide ranges of speeds and feeds insure high production and close tolerances. Practical attachments simplify tooling—and often eliminate need of special fixtures. Find out how this versatile turret lathe can improve your machining. —*Write for Catalog Now!*

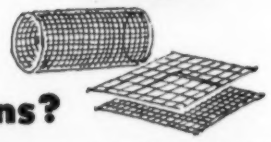
SOUTH BEND LATHE
SOUTH BEND 22, INDIANA
Building Better Tools Since 1906

▲ For more details circle NED-604 G3 on enclosed inquiry slip ▲

filter leaves?



strainers?



sizing screens?

CAMBRIDGE can build almost any type of wire cloth part to your specifications. Our factory men can work from your specifications, or our Engineering Department can draw up working prints and specs based on merely your description of what the part must do. Why not let us quote the next time you need special wire cloth forms?

● **ALSO WIRE CLOTH IN BULK—from warehouse or woven to order.** We can also supply you with wire cloth in bulk for your own fabrication. Many common types are ready for immediate shipment from stock. And if your order needs special production, we'll schedule our looms to have the material in your plant without delay . . . any metal or alloys and from 20 x 250 mesh up to 4" openings.

FOR COMPLETE INFORMATION write for illustrated catalog. Or call in your Cambridge Field Engineer for a conference in your plant. He's listed under "Wire Cloth" in your classified phone book.

The Cambridge Wire Cloth Co.

WIRE CLOTH | METAL CONVEYOR BELTS | SPECIAL METAL FABRICATIONS

Department C
Cambridge 7,
Maryland

OFFICES IN PRINCIPAL INDUSTRIAL CITIES

▲ For more details circle NED-605 G3 on enclosed inquiry slip ▲

JABSCO STAINLESS STEEL PUMPS SOLVE CORROSIVE PUMPING PROBLEMS

Designed and Engineered for Chemical Applications

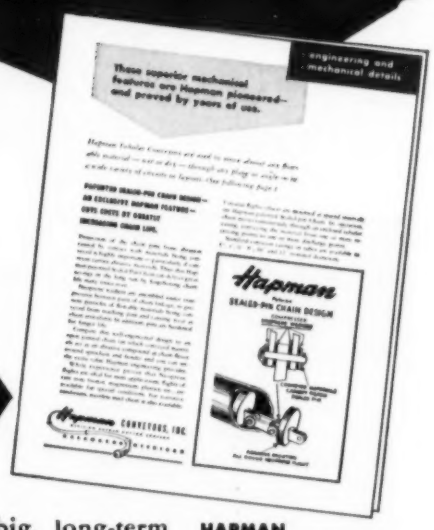
Jabsco's complete line of self-priming, corrosion-resistant pumps answer a multitude of pumping needs. Models 2810 (1" pipe size), 2870 (½"), and 2690 (⅜") have all metallic parts of Type 316 stainless steel. Shafts are supported by oversize, replaceable carbon bearings, stuffingbox type shaft seal with chemical resistant packing. Pumps function perfectly even with dry suction lifts approaching 15', no foot valve is required. When primed, they suck as high as 26'. Jabsco pumps have no metal-to-metal contact, no gears to wear or become noisy. The exclusive "camflexed" Neoprene Impeller is the only moving part. This tough, long-lived, wear resistant impeller is self-lubricated by the liquid pumped. Jabscos are economical, low in first cost, and trouble and maintenance free, even under continuous operation. May be mounted at any angle to pump thin or viscous liquids, and can be operated efficiently at low or high speeds. At 10' head and 1750 RPM, Model 2810 delivers up to 27 GPM, Model 2870 up to 10 GPM, Model 2690 up to 4 GPM. Other stainless steel models also available with ball bearings and mechanical seals. For complete information on how Jabsco can solve your pumping problems, write **Jabsco Pump Company,** 2031 North Lincoln Street, Burbank, California.

Advt.

▲ For more details circle **NED-606 G3** on enclosed inquiry slip ▲

SEE HOW Hapman TUBULAR CONVEYORS ARE ENGINEERED FOR LOWER HANDLING COSTS

Get your copy of this new Bulletin



To give you big, long-term savings in conveying bulk flowable materials, Hapman offers many exclusive conveyor engineering features.

Among them are long-lived Sealed-Pin Chain (patented), All-Round Neoprene Flights, Roller Turns for special conditions, and other superior mechanical advantages.

Learn more about them all—and you'll see how Hapman Tubular Conveyors get bulk handling costs *down* and *keep* them down!

WRITE FOR NEW BULLETIN ND-753.

HAPMAN Conveyors handle:

METAL Chips, Sludges, Carborundum Dust — Wet or Dry CHEMICALS: Powdered, Granular, Abrasive, Corrosive—FOODS: Wet Spent Grains, Starch, Flour, Malt—Powered Coal, Ashes, Filter Cake, etc.

Below: Illustration from new bulletin shows conveyor discharging metal chips into tote box.

Hapman CONVEYORS, INC.
DIVISION HAPMAN-DUTTON COMPANY
KALAMAZOO MICHIGAN

▲ For more details circle **NED-607 G3** on enclosed inquiry slip ▲

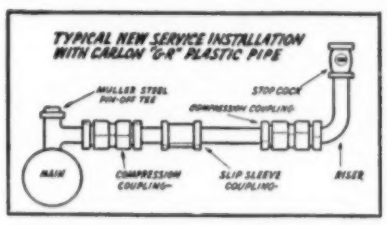
New Processes & Materials

FLUX TEST KIT improved with doubled quantities

Replacing a smaller kit, this Divco soldering flux test kit has doubled test quantities of fluxes, thinners, residue removers and chemical wire strippers. Twenty-four items are included, along with soldering flux chart No. 52 which describes each flux, its applications, and rates it for use in soldering more than 20 metals and alloys. Relative solderability, solvents for residues, dielectric strengths, corrosion resistances and other facts are outlined. Available from **Division Lead Co.,** Dept. P-12, 836 W. Kinzie St., Chicago 22, Ill.

▲ For more details circle **NED-608 G3** on enclosed inquiry slip ▲

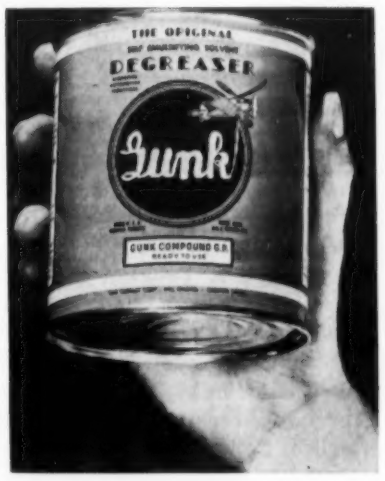
PLASTIC PIPES for natural gas transmission



Corrosion resistance, high carrying capacity, light weight and rapid connection are features of two new types of plastic gas transmission pipe developed for new or replacement use. GR pipe has high impact strength and effective fiber strength of over 3600 psi. It is suitable for use in any climate, is made in 20-ft sections and is connected with compression or cemented type couplings. GF flexible pipe can be inserted directly into the old corroded service line. Latter type has the same mechanical, thermal, electrical and chemical values as the rigid pipe and is supplied in lengths up to 250 ft. Made by **Carlon Products Corp.,** 10225 Meech Ave., Cleveland 5, O.

▲ For more details circle **NED-609 G3** on enclosed inquiry slip ▲

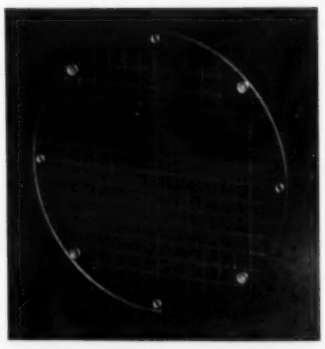
DEGREASING CLEANER offered in small containers



Gunk G-P (general purpose) self-emulsifying and self-scouring solvent, formerly available only in industrial quantities is now offered in pint containers for cleaning paint brushes, degreasing engines and various other uses. Cleaner is noncaustic, nonacidic, emits no toxic vapors, does not tend to de-fat the skin and has no flash point. Removal is by sluicing with water. Made by **Curran Corp.,** 110 S. Canal St., Lawrence, Mass.

▲ For more details circle **NED-610 G3** on enclosed inquiry slip ▲

PLASTIC IMPRINTING marks lines, scales, figures



LT 2015 Thermoset is a process for marking lines, scales and figures on clear Homalite CR-39 thermosetting plastic. Process permits lines as thin as 0.007-in. to be held to an accuracy of 0.002-in. Material does not yield at high temperatures nor scratch readily. Lines and figures can be applied in any color and are almost impossible to obliterate. Applications include such internally lighted equipment as oscilloscopes, radar screens and plotting boards, and instruments operating at high temperatures or in high breakage areas. Process and material available from **Homalite Corp.,** 14 Brookside Dr., Wilmington 166, Del.

▲ For more details circle **NED-611 G3** on enclosed inquiry slip ▲

$37.50* buys this INDICATING SNAP GAGE

Choice of 3 capacities:
0" to 1" ¾" to 2"
1¾" to 3¼"

*Price includes Indicator graduated .0005" with plain bearings and Hardened Steel anvils.

Price with Indicator graduated .0001" with jewel bearings and Tungsten Carbide anvils $57.50.

You can't afford to be without the most popular modern Indicating Snap Gage. Experience proves you aren't saving money using old style gages just because you've got them. With Visual Indicating Gages you get more accurate work with less scrap. They relieve operator uncertainty and frustration. And, they cover a wider gaging range. Larger sizes available, too. Write: Federal Products Corp., 1177 Eddy St., Providence 1, R. I.

Set of 3 Gages covers all sizes from 0" to 3¼"—replaces rackfuls of old style gages.

FEDERAL
Largest manufacturer of indicating type gages . . . exclusively

▲ For more details circle **NED-612 G3** on enclosed inquiry slip ▲

FAST SOLDERING OF SMALL CONNECTIONS

For fast, low-cost soldering of small joints, try this G-E 25-watt, 6-volt midget iron with long-life Ironclad tip. Light as a pencil to reduce operator fatigue, this iron has a ¼-in. diameter tip* and shank for soldering where ordinary irons can't reach. The G-E midget does the job of larger irons—heater is built right into the tip to provide *maximum heat where you want it.*

FREE BULLETIN GEA-4519 contains full data on all G-E industrial soldering irons, from 25 to 1250 watts. Write Section 720-106, General Electric Co., Schenectady 5, N. Y.

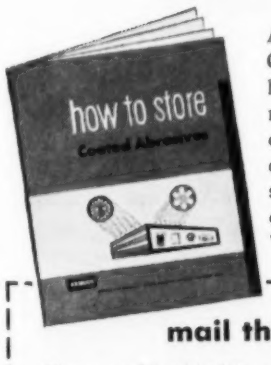
*Also available with ⅛- and 3/16-in. tips.

GENERAL ELECTRIC

▲ For more details circle **NED-613 G3** on enclosed inquiry slip ▲

Stop wasting money!

Protect your investment in coated abrasives



A new booklet from Armour's Coated Abrasives Division tells you how to stop losses—in time and money—from improperly stored coated abrasives. Clogging, filling, cracking, loss of grains—these are some of the things proper storage can prevent. Send for free copy of "How to Store Coated Abrasives."

mail this coupon today

Please send booklet "How to Store Coated Abrasives."

Name _____

Company _____

Address _____

City _____ Zone ____ State _____

ARMOUR Coated Abrasives

Armour and Company • North Benton Road • Alliance, Ohio

▲ For more details circle **NED-614 G3** on enclosed inquiry slip ▲

▲ For more details circle NED-615 G3 on enclosed inquiry slip ▲

▲ For more details circle NED-616 G3 on enclosed inquiry slip ▲

New Literature & Catalogs

Applications for Teflon

Polymer Corp. of Penna. — Teflon for chemical, electrical and electronic industries, its applications and possibilities are detailed along with product's outstanding properties and characteristics in 8-page catalog. Special summary deals with design considerations using Teflon. Cataloged is Polypenco Teflon in form of rod, tubing, slab and tape with specifications on size, shape and tolerance.

▲ For more details circle NED-617 G3 on enclosed inquiry slip ▲

Cellophane, Characteristics & Uses

American Viscose Corp., Sylvania Div., Market Development Dept.—If you would like to "Meet Sylvania Cellophane" send for folder of the same name which describes the history, manufacture and packaging functions of this film. Supplementing this folder is another entitled "Characteristics and Uses" which lists all standard types and gages of Cellophane and recommends uses for each. Special types for use in tropical climates have been added to line.

▲ For more details circle NED-618 G3 on enclosed inquiry slip ▲

Air-Powered Stirrers

Arrow Engineering Co.—Explosionproof air powered stirrers for laboratory use are described in 4-page folder. Units operate on air pressures from 30-80 psi, and feature stainless steel construction for cleanliness. Light and heavy duty models are made, speeds are controllable through the air valve provided.

▲ For more details circle NED-619 G3 on enclosed inquiry slip ▲

Industrial Trucks

Lewis-Shepard, Inc.—Operations of the Master line of electrical industrial trucks are described in a package of case history folders. These show leading companies in the food, motor freight, warehouse, and other industries using the equipment to advantage, describe features and capacities.

▲ For more details circle NED-620 G3 on enclosed inquiry slip ▲

Sump Vacuum Cleaners

Spencer Turbine Co.—Sump cleaning with vacuum equipment which will pick up liquids at a rate of 40 gpm with a tank capacity of 125 gallons is the subject of bulletin 130-C. Gives operating instructions, specifications and a layout diagram. Also described is equipment for picking up water from floors and ducts.

▲ For more details circle NED-621 G3 on enclosed inquiry slip ▲

Thread Milling Manual

Sixteen-page thread milling cutter manual D-52 gives complete technical information on speeds and feeds, maintenance, inspection, tolerances and milling cutter types. Tabular data includes listings of job-correlated peripheral speeds, rpm for various diameter cutters, and methods for determining cutter speeds and feeds. Catalog and ordering information is also included on a line of thread milling cutters. Available only on letterhead request to Detroit Tap & Tool Co., 8615 E. Eight Mile Rd., Base Line, Mich.

▲ For more details circle NED-622 G3 on enclosed inquiry slip ▲

Vacuum Safety Switch

Jaycon Associates — Preventing breakdown of equipment operating on a limited liquid source or vacuum, the Vac-On switch is described in new data sheet. Information given includes cutaway photographs and installation diagrams, operational and construction data and model specifications.

▲ For more details circle NED-623 G3 on enclosed inquiry slip ▲

Welding Literature Guide

Arcos Corp.—An 18-page booklet forms an index and guide to a series of bulletins, charts and articles on welding stainless, low-alloy high-tensile, and nonferrous metals. Information listed as available is prepared as a working tool towards correct welding practices and consistent quality results.

▲ For more details circle NED-624 G3 on enclosed inquiry slip ▲

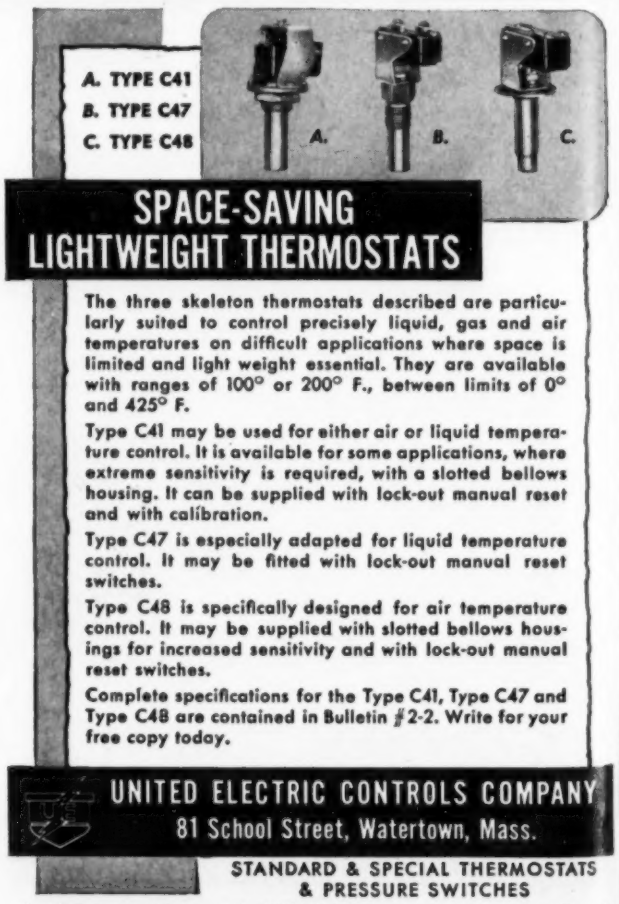
Loaders & Unloaders

Stephens-Adamson Mfg. Co.—Loading and unloading equipment for railroad cars and ships is described in 24-page bulletin 253. Units both for medium and heavy duty in all capacity ranges are described, with fully or semiautomatic operation. Application photographs, operational and installation drawings and data are given.

▲ For more details circle NED-625 G3 on enclosed inquiry slip ▲

▲ For more details circle NED-626 G3 on enclosed inquiry slip ▲

▲ For more details circle NED-627 G3 on enclosed inquiry slip ▲



▲ For more details circle NED-628 G3 on enclosed inquiry slip ▲

YOU CAN CUT COSTS ON LIGHT ASSEMBLY OPERATIONS *with this fast* Bellows AIR VISE

Built-in electrical or mechanical valve for automatic operation

VISE may be operated by hand or foot or may be synchronized to riveters, punch presses, arbor presses or other machines. Clamping pressure adjustable from 0 to 500 lbs. 4" soft steel false jaws. Jaw opening adjustable to 2¼".

1080

The Bellows Co. AKRON, OHIO

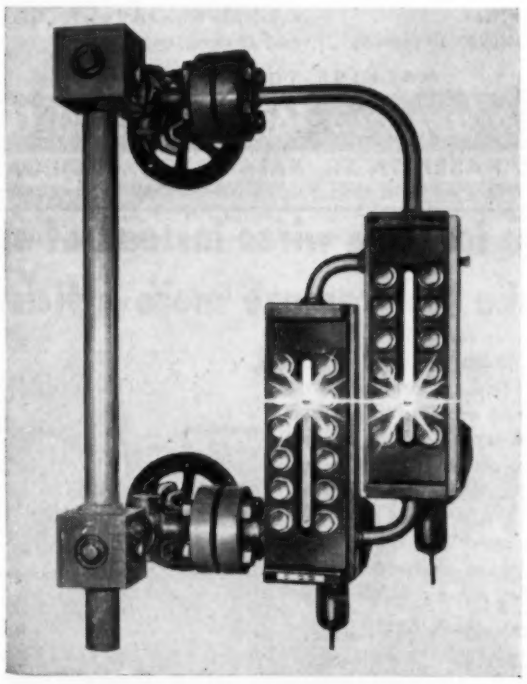
Write for Bulletin NED 753

For more details circle NED-629 G3 on enclosed inquiry slip

THIS BOILER WATER LEVEL SHINES LIKE A STAR

Yarway Type "M" Illuminators on Yarway Flat Glass Gage inserts cause the meniscus at water level to "shine like a star." It literally dances before your eyes. The blue-green light is especially effective in penetrating deposits on gage glass, dust particles in the air and extraneous light.

Other new features of Yarway water gage assemblies give greater dependability, longer life and more accurate readings. These features include flexible "separated design" for wide visibility ranges, interconnecting expansion loops, short connections to the drum, Welbond gage valves and tie-bar-type water column to provide circulation . . . plus Yarway's pressure-sealed "floating assembly" gage glass inserts.



Yarway Water Column and Gage assemblies are also available in single insert types for medium range of visibilities, and for all pressures up to 2500 psi. Write for free Yarway Water Column and Gage Bulletin WG-1811.

YARNALL-WARING COMPANY
131 Mermaid Avenue, Philadelphia 18, Pa.

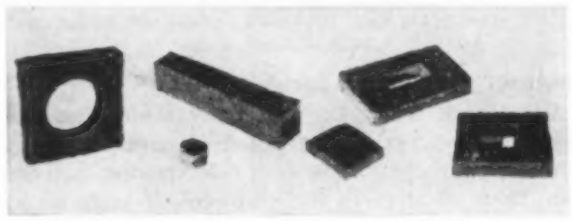
YARWAY water columns and gages

For more details circle NED-630 G3 on enclosed inquiry slip

New Processes & Materials

PACKAGING PADDING
shapes cut to fit product contour

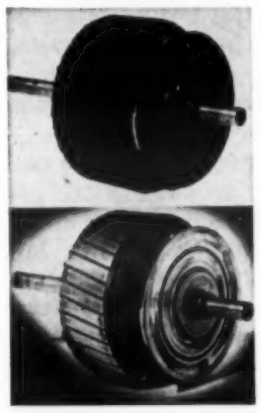
Precision parts are protected against breakage or damage during shipment by Co-Ro-Tex packaging liners which consist of rubberized fiber vulcanized



into sheets or pads and die cut in shapes to fit product contours. It is highly resilient, lightweight and of uniform consistency, as well as being dust-free, nonabrasive, resistant to moisture and fungus and noncorrosive to metal. Product meets Military specifications MIL-P-6064A and MIL-C-7769. Distributed by **Greenwood Packaging Supply Co.**, Dept. NED, 859-879 Summer Ave., Newark 4, N. J.

For more details circle NED-631 G3 on enclosed inquiry slip

SOLVENT DEGREASER
nontoxic and nonflammable



Rapid in action and fast-drying, Brulin solvent degreaser is practically nontoxic and nonflammable. It can be employed in production line work without the use of special safety clothing or ventilating equipment. It is particularly efficient for cleaning electrical motors as it has no effect on insulation (photo shows "before and after" view of motor armature). Available in drums from 5 to 55 gallons from **Brulin & Co.**, Dept. 275, 2939 Columbia Ave., Indianapolis 7, Ind.

For more details circle NED-632 G3 on enclosed inquiry slip

CAULKING COMPOUND
made of synthetic rubber

Addition of an easily mixed catalyst to D-46 synthetic rubber caulking compound or putty, supplied as a black paste of heavy viscosity, permits curing at room temperature. Resulting coating is a flexible rubber that will not shrink and which adheres to almost any clean surface such as metal, wood, concrete or glass. Use can be for filling and sealing cracks, expansion joints and repairing tanks. Film can be built up to any thickness and resists water, sun, oils, gasoline, dilute acids, and most solvents. Flexibility is retained at −65° F and use at temperatures to 250° F is possible. Made by **Connecticut Coatings, Inc.**, 45 E. Putman Ave., Greenwich 5, Conn.

For more details circle NED-633 G3 on enclosed inquiry slip

WALL COATING
moisture-resistant and decorative

Based on Bakelite polystyrene latex, Styrox masonry surface coating resists moisture, soap, alkali, acid and chemical fumes, as well as dirt and abrasion.

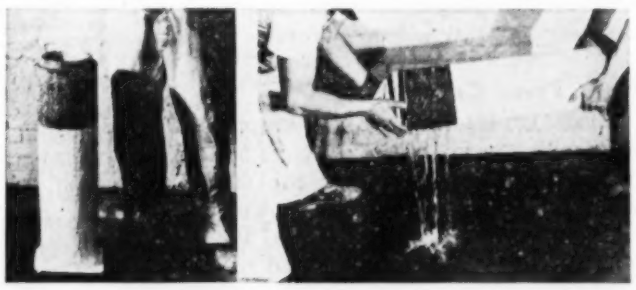
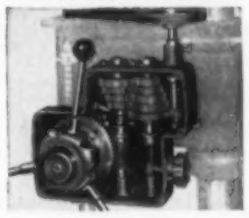


Illustration shows a Poroswall drain pipe partly coated with the compound, where water is retained in the coated section with no seepage, but leaks profusely through the remainder. The coating resists absorption, a single coat usually being sufficient for even such absorbent surfaces as cinder block. It can be applied to clean nonmetallic or painted and galvanized metal surfaces, drying in about 30 minutes. It is available in a number of colors and tints. Made by **Protex-A-Cote, Inc.**, 161 Delancy St., Newark 5, N. J.

For more details circle NED-634 G3 on enclosed inquiry slip

GEAR-DRIVEN POWER FEED

CLAUSING 18" HEAVY DUTY POWER FEED DRILL PRESS



Drills 1" in cast iron, ¾" in steel. No. 3 Morse Taper, 6½" spindle travel. HEAVY DUTY GEAR-DRIVEN, DIAL-SELECTION POWER FEED TO TAKE ADVANTAGE OF THIS BIG TOOL AND JOB CAPACITY! Plus *new spindle bearing* engineering, *vernier depth stop, exclusive head and table positioning mechanism.* A truly great tool! Send for literature today.

CLAUSING DIVISION
ATLAS PRESS CO., 7-113 N. PITCHER ST., KALAMAZOO, MICHIGAN

For more details circle NED-635 G3 on enclosed inquiry slip

NEW Safety Goggles

Now . . . 2 New AO COVERGLAS GOGGLES

Fit Over Safety and Personal Glasses

AO's newest development in eye protection—Chippers' and Welders' Coverglas Goggles—can be worn over practically every pair of personal glasses (even the biggest frames) and most types of safety prescription goggles *with and without side shield.*

Wider vision, too, because the lenses are larger and scientifically designed to give up to 20% more vision. Yet, with all these features the goggles weigh but a fraction of an ounce more than ordinary Coverglas goggles . . . cost only slightly more.

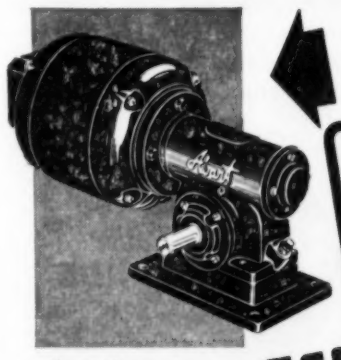
These goggles are the newest . . . and two of the greatest . . . developments since the advent of safety goggles. Get all the facts about these two outstanding Coverglas goggles from your AO Safety Products Representative. He can supply you.

American Optical SAFETY PRODUCTS DIVISION

Southbridge, Massachusetts • Branches in Principal Cities

For more details circle NED-636 G3 on enclosed inquiry slip

Find out WHY more and more MODERN DESIGNers choose ABART GEARMOTORS



Abart Gearmotors are available with output speeds as low as 17½ R.P.M., 1/6 to 5 h.p., ratios 5-4/5 up to 100 to 1.

SEND TODAY FOR THIS HANDY, "POCKET-SIZE" CATALOG

For production machinery or adaptations of speed reduction for special equipment—modern designers find that their job is simplified with ABART GEARMOTORS. You, too, can get the same results, satisfaction and national service with Abart.

Abart GEAR & MACHINE CO.
4826 WEST 16th STREET • CHICAGO 50, ILLINOIS
Mfrs. of Gears, Speed Reducers and Gearmotors

For more details circle NED-637 G3 on enclosed inquiry slip

FLEXIBLE AS STRING . . . GLASS-CLEAR . . . FEATHER-LIGHT . . . FULLY RESISTANT TO ACIDS, ALKALIES, OILS, GREASES, AND WATERS . . . MIRROR-SMOOTH . . . TOUGH AS LEATHER . . . NON-OXIDIZING . . . NON-TOXIC . . . LONG-WEARING . . . FOR THE TRANSMISSION OF LIQUIDS, GASES, AND SEMI-SOLIDS.

TYGON Tubing is available in six standard compounds — continuous lengths — bores up to 2" ID — with or without outer braid reinforcement. Special compounds and sizes made to order.

Write, today, for detailed information and technical Bulletin T-77! 202C

U. S. STONEWARE
AKRON 9, OHIO
PLASTICS AND SYNTHETICS DIVISION

▲ For more details circle NED-638 G3 on enclosed inquiry slip ▲

Loading Dock...or Parking Lot?

...one of Magliner's 34 Standard Dock Boards will load Your Trucks

FASTER...SAFER...AT LOWER COST!

Magliner standard magnesium dock boards insure swift in-and-out truck movement . . . prevent valuable loading areas from becoming costly parking space! Magliner's 34 load-engineered standard models provide a low-cost link between truck and dock for virtually all truck docks . . . eliminate the need for expensive, custom-made equipment. Get smooth, rapid material flow from carrier to plant . . . keep trucks on the move! Gain substantial reductions in loading and unloading costs! Equip your truck docks with *magnesium*-light, *magnesium*-strong Magliner standard dock boards! Write today for bulletin DB-203.

MagLiner STANDARD
MAGNESIUM DOCK BOARDS

Light! Strong! Safe!
Adjustable To Varying Heights and Spans
WRITE FOR BULLETIN DB-203!

Exclusive
AUTOMATIC DROP LOCK
(pat. applied for)
• Positive Lock Prevents Slippage
• Quickly . . . Easily Adjustable

Custom-Engineered Dock Boards Also Available — Write For Information

MAGLINE INC. • P.O. BOX 396 • PINCONNING, MICHIGAN

▲ For more details circle NED-639 G3 on enclosed inquiry slip ▲

New Literature & Catalogs

Tips on Process Heating

Jensen Specialties, Inc.—"Heat Lines by Jensen" is title of a new bi-monthly publication of technical data and tips on process heating. Typical installations, problems and solutions at major plants are to be featured in each issue, together with factual reports and features.

▲ For more details circle NED-640 G3 on enclosed inquiry slip ▲

Contract Electronic Service

AiResearch Mfg. Co. — "Electronic Facilities," (booklet 4-0-1) gives a detailed account of company manufacturing and research electronics activities. More than 60 pictures illustrate the 16-page booklet.

▲ For more details circle NED-641 G3 on enclosed inquiry slip ▲

Permanent Magnet Line

Thomas & Skinner Steel Products Co.—A complete line of standard permanent magnets is described in catalog 1252, which are available in Alnico 2, 3 and 5. Fourteen pages give dimensional drawings, performance and ordering information, and include brief fabricating instructions.

▲ For more details circle NED-642 G3 on enclosed inquiry slip ▲

Metallized Ceramic Terminals

American Lava Corp.—4-page bulletin 524 gives properties, drawings and ASTM test results on a line of standard ceramic metallized hermetic terminals. They are designed for such hermetically sealed components as transformers, capacitors, relays, controls and motors.

▲ For more details circle NED-643 G3 on enclosed inquiry slip ▲

Millivoltmeter Type Instruments

Minneapolis-Honeywell Regulator Co., Brown Instruments Div.—Described and illustrated in 20-page catalog 1053 are Brown millivoltmeter type instruments, including indicators, indicating electronic controllers and excess temperature safety cut-off controllers. Operation data, applications, selection tables and other information are included.

▲ For more details circle NED-644 G3 on enclosed inquiry slip ▲

Flexible Metal Hose

Universal Metal Hose Co.—Types of flexible metal hose illustrated and described in 20-page Technical Data Book U-111 include seamless all-metal flexible pressure hose; interlocked suction, blower and conveyor hose; square-locked conduits and flexible spout tubing; high pressure hydraulic hose; double and single wire-braided hose; and others for applications of vibration elimination, steam, gas stove connectors, etc.

▲ For more details circle NED-645 G3 on enclosed inquiry slip ▲

Porous Refractories

Filtros Inc.—"Porous Media for the Chemical Process Industries" is title of 4-page illustrated bulletin No. 11. Uses, characteristics, advantages and shapes, sizes, grades and permeabilities available are given for carbon, refractory clays and thermoplastic.

▲ For more details circle NED-646 G3 on enclosed inquiry slip ▲

Waterproof Bonding Adhesives

Koppers Co., Chemical Div.—Origin of resorcinol-formaldehyde adhesives is discussed briefly and types made for specific applications are explained in 8-page booklet C-3-149. Recommendations of types suited for gluing of oak, for general bonding and durable bonding are given. All adhesives meet government military specifications.

▲ For more details circle NED-647 G3 on enclosed inquiry slip ▲

Horn Press Catalog

Clearing Machine Corp.—Emphasizing versatility of Clearing horn presses, 16-page bulletin 223 contains complete specifications for the entire press line as well as cutaway drawings showing engineering details. Nongeared presses from 45 to 75 tons, and single geared machines from 45 to 200 tons are covered.

▲ For more details circle NED-648 G3 on enclosed inquiry slip ▲

Flexible Speed Drive

Reeves Pulley Co.—In addition to showing flexibility in mounting by means of photos, 4-page bulletin V-532 describes the flexible speed drive in detail, gives rating tables, shaft center distances, ordering instructions and dimensions. Unit converts standard constant speed motor to infinitely variable speed drive with ratio up to 8:1.

▲ For more details circle NED-649 G3 on enclosed inquiry slip ▲

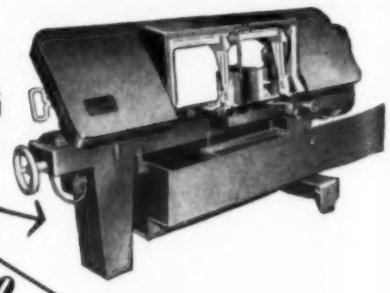
IMPROVED MODEL McCORD UNIT HEATER

The improved McCord Unit Heater incorporates every unit heater advancement that McCord engineers and the experience of thousands of users could suggest. The distinctive modern design with rounded corners combines improved appearance with greater strength and houses a heating unit that sets a new standard of heat transfer efficiency and quietness. The scientific design of the individual turbo spiral fin tube core provides even distribution of heated air at high velocity. The individual tubes prevent stresses due to unequal expansion. The entire heating unit is spring suspended and floats free in the casing eliminating rigid connections. Deep pitched fans provide high air delivery and quietness of operation.

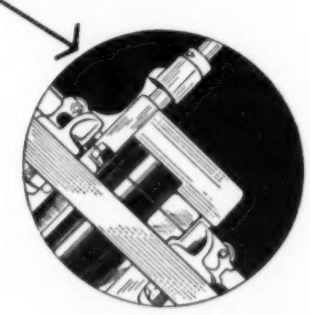
This improved heater is a development of the experience gained from the thousands of McCord Unit Heaters in service. It combines good appearance with that inherent McCord quality of ruggedness and dependability that has made McCord the standard among many of the largest industrial users. You may also replace old leaking heaters using new McCord units and your old fan and motor. Write for new catalogs—Unit heaters and blast coil units. **McCord Corporation,** 2580 E. Grand Blvd., Detroit, Mich. —Advt.

▲ For more details circle NED-650 G3 on enclosed inquiry slip ▲

you can see the CUTTING ACTION



Kalamazoo METAL CUTTING BAND SAW



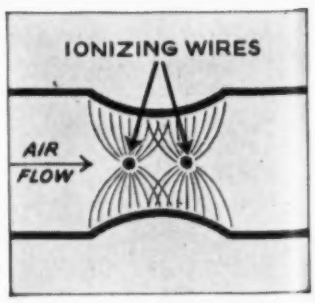
Yes . . . you can look directly down into the cut as it's being made, giving you instant warning of any need for adjustment. And blade wear and dullness can be quickly detected, too. Result? Faster, cleaner precision cutting, longer blade life.

Investigate the many other exclusive Kalamazoo Band Saw features that give you lowest cost metal cutting. Three sizes, all available with coolant equipment and casters.

MACHINE TOOL DIVISION
Kalamazoo TANK and SILO CO.
712 HARRISON ST., KALAMAZOO, MICHIGAN

▲ For more details circle NED-651 G3 on enclosed inquiry slip ▲

Two ionizing wires instead of one make Electromaze more efficient

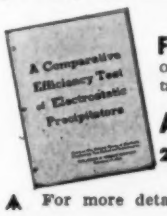


IN ELECTROMAZE electronic air cleaners, airborne particles pass *two* ionizing wires instead of one, insuring a maximum electrostatic charge on every particle—even on particles as small as 1/250,000 of an inch. This dual ionization makes Electromaze more effective, gets air super-clean.

Installation is 50% quicker. You just bolt prefabricated cellular holding frames together, forming banks built like a skyscraper. Light-weight aluminum cells slide easily into stamped holding frames to complete the bank.

Cleaning's no problem. Cells can be cleaned in place with a hose under ordinary city water pressure, or, if manual cleaning becomes necessary—as it may in all types of electrostatic filters—cells slide in and out easily, just like desk drawers.

Electromaze electronic air cleaners are supplying super-clean air in hundreds of installations. Get expert help with your air filtering problem; write Air-Maze Corporation, 25000 Miles Rd., Cleveland 28, Ohio.



FREE BOOKLET! Send for free booklet reporting on a comparative efficiency test of electrostatic precipitators conducted by an independent testing laboratory.

AIR-MAZE CORPORATION
25000 Miles Road • Cleveland 28, Ohio

▲ For more details circle NED-652 G3 on enclosed inquiry slip ▲

For concentrated **HEAT** for confined areas

CHROMALOX
Electric CARTRIDGE HEATERS

SAFE • EFFICIENT • EASY-TO-INSTALL
Chromalox Electric Cartridge Heaters provide dependable heat when and where you need it at the temperatures you require. Dies, molds, platens, moving parts, etc. are quickly and accurately heated to controlled temperatures required for most efficient production. Lengths up to 40", diameters 3/8" to 3½", ratings 30 to 8750 watts.

GET CHROMALOX CATALOG 50 For Complete Details

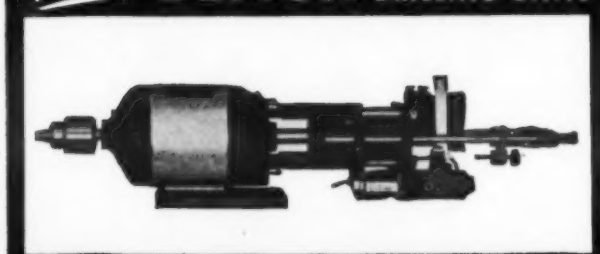
Industrial Div., EDWIN L. WIEGAND CO., 7509 Thomas Blvd., Pittsburgh 8, Pa.

See other ad on pg. 4

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

For more details circle NED-653 G3 on enclosed inquiry slip

New **BLACK** SELF-CONTAINED DRILLING UNITS



NO SPLINES — Self-contained units, at low cost, for drilling, tapping, chamfering, reaming and similar operations.

NO GEARS — New principle employs traversing motor shaft for work spindle, applies even torque with practically no end play. Drill has air feed for rapid advance to work—hydraulic control to completion of work cycle with uniform feed. Tapping unit controlled so tap follows its own lead without chamfering first thread or stripping threads on return stroke. Easy adjustment—depth accuracy to within .001".

NO CAMS

NO CLUTCHES

NO REVOLVING WEIGHTS — Operate in any position. Wide range of speeds and sizes.

Write for complete information

BLACK DRILL COMPANY, INC.
1380 EAST 222nd STREET CLEVELAND 17, OHIO

For more details circle NED-654 G3 on enclosed inquiry slip

Something **NEW** *IN WHEELS!*

DICO -HD-
Heavy Duty Industrial Wheel

"Non-breakable" Heavy Steel Plate Construction.
"Easy-rolling composition" Molded-On rubber tires. Roller bearings. Finished hub end caps.

DICO COMPANY 206 S.W. 16th ST., DES MOINES, IOWA

For more details circle NED-655 G3 on enclosed inquiry slip

New Processes & Materials

DOCUMENT SEALING SERVICE preserves documents from wear

Patents, photographs, records and other documents up to 8 x 12 in. can now be sealed between Vinylite transparent plastic sheets for preservation against usage and wear through mail-order service offered by company. Records are laminated between rigid plastic sheets which stand up under rough handling; resist warping, cracking and aging; are nonflammable; and are resistant to moisture, oil, grease, ink and most chemicals. They can be hung on the wall or filed away and are easy to clean with a damp cloth. Service offered by **Scrapbooks, Inc.**, Dept. NED, 821 North Ave., Plainfield, N. J.

For more details circle NED-656 G3 on enclosed inquiry slip

SILICONE RUBBER PARTS offered in molded and extruded form

Good resistance to temperature extremes, an inert surface which minimizes sticking and lack of odor and taste are features of silicone rubber parts molded and extruded into various shapes. Parts are not subject to change due to contact with weather, oils, common chemical and weak acids. Parts made by **Lee Rubber & Tire Corp.**, Republic Rubber Div., Dept. W, 500 Albert St., Youngstown 1, O.

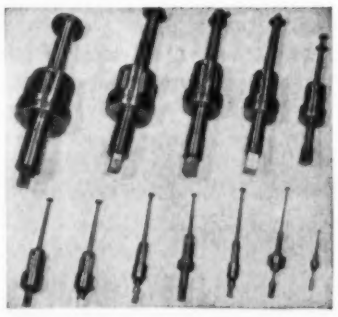
For more details circle NED-657 G3 on enclosed inquiry slip

MASONRY WATERPROOFER paint gives water repellent coating

Applicable to all types of masonry, Sham-Rock cement paint with Myti-Dri waterproofing hydrate provides a surface that is hard as rock, resistant to light acid fumes, impenetrable to the passage of water and does not color when wet. It is usable above or below ground level and can be used on brick, stucco, concrete or other masonry surfaces. It prevents mildew and bars passage of cold air through porous masonry. Standard colors are white, rose, green, aqua, grey, blue, cream and buff, and pastel shades are produced by blending. Made by **Masonry Waterproofing Co.**, Box 9301, Rosslyn Station, Arlington, Va.

For more details circle NED-658 G3 on enclosed inquiry slip

MECHANICALLY JOINED TUBING fittings attached with tube expander



Rigid tubing, especially nonweldable grades made of stainless or, cadmium plated mild steel, anodized aluminum or titanium, can now be joined mechanically by system which involves hand expander tools, illustrated, and line of specially adapted fittings. Brazing and welding are eliminated. Fittings are available with either plain or O-ring groove V-clamp type flanges, or with 4, 6 and 8-bolt-hole swivel flanges. Both are made in sizes for ¾ to 7-in. OD tubing. Fittings designed with female swivel nut terminations are also available for ⅝ to 1½-in. OD tubing. Expander is positioned into front of tube, mandrel is inserted into expander and is turned clockwise while in engagement with expander rolls until tubing is rolled internally to required depth. Developed by **Avica Corp.**, Dept. NED, P. O. Box 1090, Portsmouth, R. I.

For more details circle NED-659 G3 on enclosed inquiry slip

THREE NEW GUIDES for METAL CUTTING

Now you can accurately, easily flame cut all kinds of shapes—circles, angles, bevels, straight lines. NEECO cutting guides convert ordinary hand torches into precision cutting instruments. Attached quickly—without tools. Neat, clean cuts need little or no grinding or machine finishing. Models to fit all torches, from 70° to 90° types. Cut circles from 1 to 66 inches diameter. Every shop should have these new guides—as basic, time saving tools or as standby equipment.

The three new NEECO guides—for small circles, for large circles, for straight lines—are shown, left.

Write for complete information and model selection data.

Precision Flame Cutting—Fast and Exact!

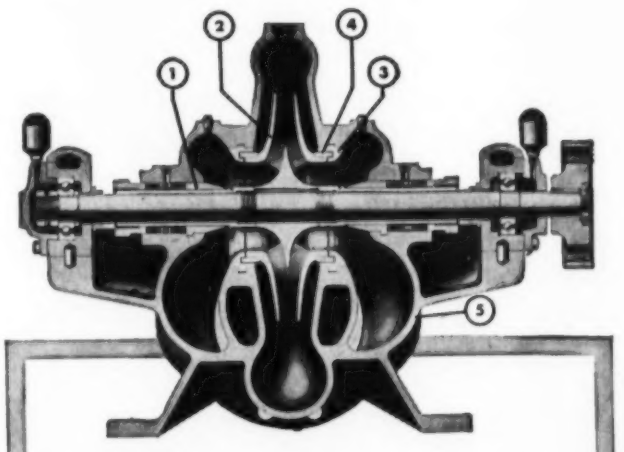
NEECO

NEW ERA ENGINEERING CO.
458 West 29th Street • Chicago 16, Illinois

For more details circle NED-660 G3 on enclosed inquiry slip

DE LAVAL
SINGLE STAGE CENTRIFUGAL PUMPS

for dependable service



1 Shaft Sleeves are screwed on, to abut the impeller and make a water-tight joint. Sleeve expands freely and independently of shaft when temperatures change. There is no tendency to buckle.

2 Impeller hydraulically balanced, finished on all surfaces.

3 Labyrinth Wearing Rings held accurately in machined grooves in both case and cover.

4 Impeller Wearing Rings threaded on impeller, opposite to rotation.

5 Pump Case horizontally split; machined to limit gages.

You can count on the performance of the De Laval Single Stage Centrifugal Pumps because they are precision-made to high manufacturing standards and incorporate many quality design features.

They operate at high or low speeds, at high or low heads . . . with maximum efficiency.

For example, De Laval G, I and K Single Stage Double Suction Pumps have a capacity range of 175 gpm to 6,000 gpm and heads to 300 feet. They are available in sizes ranging from 4" suction and 3" discharge to 14" suction and 12" discharge. Write for Bulletin 1002.

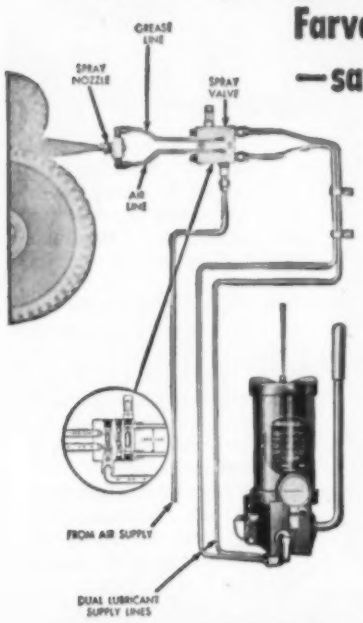
De Laval also furnishes larger centrifugals for capacities up to 70,000 gpm. Bulletin 83-29R sent on request.

DE LAVAL *Centrifugal Pumps*

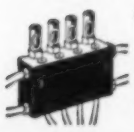
DE LAVAL STEAM TURBINE COMPANY
808 Nottingham Way, Trenton 2, New Jersey DL-304

For more details circle NED-661 G3 on enclosed inquiry slip

Lubricate open gears evenly with Farval Spray Valve —save up to 95%



• For three years, Farval Spray Valve Systems have been distributing and maintaining oil or grease films evenly on open gears and slide surfaces. Farval Spray Valves save up to 95% of lubricant, eliminate friction, increase machine efficiency, lower power costs, reduce wear on bearing surfaces. Write for Farval Spray Valve Bulletin No. 60 today.



THE FARVAL CORPORATION
Centralized Systems of Lubrication
3283 East 80th Street, Cleveland 4, Ohio
Affiliate of The Cleveland Worm & Gear Company, Industrial Worm Gearing.

For more details circle NED-662 G3 on enclosed inquiry slip

Drill holes faster ...more accurately WITH A **KELLER** AIRFEEDRILL

The Airfeedrill is a fully automatic pneumatic drill that operates through a complete drilling cycle by simply pressing a control valve. It brings big savings in production costs.

Accurate holes without costly fixtures

Entirely air-controlled and operated

Easily shifted from job to job

Attaches in any position, at any angle

Pneumatic cycling to speed production

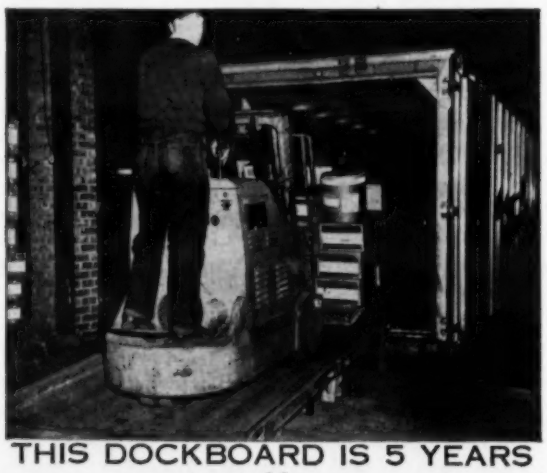
Drills metal, wood, composition, plastics

Used in close centers, and in tight places

Send for illustrated descriptive bulletin . . . "The Hole Story"

Keller Tool Company
GRAND HAVEN, MICHIGAN

For more details circle NED-663 G3 on enclosed inquiry slip



THIS DOCKBOARD IS 5 YEARS OLD — *and still going strong!*

When this company bought this Magcoa Magnesium Dockboard back in 1948, it made an investment in safe, light-weight, heavy-duty, *permanent* equipment. The first cost was the only cost.

How about you? Are you still risking workers, lift trucks and loads on a dangerous, makeshift bridgeplate? Replacing one beat-up, worn-out piece of plate with another one that really isn't any better? Why keep on paying and paying for heavy-metal plate never intended for that use, even by the companies that sell it? As a matter of fact, many of them were among the first to switch to safe, long-lasting Magcoa Dockboards—the line with more in-use service than all competitive equipment combined.

But why wait? Get the facts . . . contained in the free new Magcoa *Dockboard Facts File.* And be sure to look into the new Magcoa Portable Yard Ramp: a rugged, high-speed loading dock . . . where and when you want it. Write today.

FACTS FILE

MAGNESIUM COMPANY OF AMERICA
MATERIALS HANDLING DIV. • EAST CHICAGO 6, IND.

For dock board data circle NED-664 G3 on enclosed inquiry slip
For yard ramp data circle NED-665 G3 on enclosed inquiry slip

New Literature & Catalogs

Finishing Systems

Cincinnati Cleaning & Finishing Machinery Co.—"Complete Finishing Systems" is title and subject of 16-page illustrated catalog 200-QC. Both integral (self-contained) and unitized types of systems are covered and examples shown include large and small parts. Processes include pretreatment, paint application, drying and make-up air system.

For more details circle NED-666 G3 on enclosed inquiry slip

Porous Ceramic Media

Filtros Inc. — Physical and chemical properties, shapes and sizes, grades, uses, installation and operation, cleaning and maintenance and research and development are discussed in relation to Filtros porous ceramic media for various operations in 12-page illustrated catalog No. 10.

For more details circle NED-667 G3 on enclosed inquiry slip

Abrasive-Belt Grinding

Porter-Cable Machine Co.—32-page case-history booklet on industrial abrasive belt machining contains 46 different applications and is fully illustrated. It shows how process has cut costs and increased production in a wide variety of finishing operations.

For more details circle NED-668 G3 on enclosed inquiry slip

Positive Displacement Pump

Milton Roy Co.—Applications, capacities, materials of construction, motor-drivers and prices of H-20 positive displacement pump are contained in 4-page illustrated bulletin No. H-20-M. Standard capacities are 3 and 6 gph in Simplex models and 6 and 12 gph in Duplex models.

For more details circle NED-669 G3 on enclosed inquiry slip

Welding Products

Weldit, Inc. — 28-page catalog illustrates such welding industry products as standard and automatic torches for acetylene, oxygen and liquid petroleum gas, plumber's furnaces, weed burning and heating torches, tips and burners.

For more details circle NED-670 G3 on enclosed inquiry slip

Counterbores, Countersinks & Core Drills

Modern Corp.—Catalog of standard counterbores, countersinks and core drills includes a section on inserted-blade cutters. It is designed for quick reference, and supplies complete engineering and buying data, covering a wide range of sizes and types.

For more details circle NED-671 G3 on enclosed inquiry slip

Motor-Generator Reference Book

Allis-Chalmers Mfg. Co. — 50-page pamphlet 51-R7933 is designed to assist in the selection of electrical motive power for most indoor and outdoor industrial applications. Performance and design characteristics for a wide range of integral horsepower motors and generators are summarized and compared, operating principles are given, and installation details explained. Tabular content is unusually well presented.

For more details circle NED-672 G3 on enclosed inquiry slip

Export Packing

National Wooden Box Association — The major principles of sound export packing practice are graphically described in brochure "Export Packing." Standard construction styles of nailed wooden boxes are pictured, and examples are given of the type of product to which each is suited. Other instructions cover such topics as correct nailing, interior spacing, marking and government specifications.

For more details circle NED-673 G3 on enclosed inquiry slip

Chemical-Resistant Wire & Cable

General Electric Co., Construction Materials Div.—"Wire and Cable for the Chemical Industries" is title of 20-page publication 19-312 which discusses various types of cable that best withstand moisture and corrosive conditions, chemical exposure and atmospheric contamination which chemical plants may have to contend with.

For more details circle NED-674 G3 on enclosed inquiry slip

Roof Maintenance

Monroe Co.—"There Is a Difference" is title of 16-page brochure which effectively explains what constitutes a good roof coating. It compares length of life of various types of cold process roof preservative compounds and offers reasons for using the Ruffer-seal method of manufacture. Roof leaks can be stopped instantly even while roof surfaces are wet.

For more details circle NED-675 G3 on enclosed inquiry slip

Specify **CONTINENTAL**

UST IDLERS

Standard Duty Idler

Rubber Disc Impact Idler

Rubber Disc Return Idler

Self-Aligning Troughing Idler

• UNIT-SEALED
• TIMKEN BEARINGS
• PRE-LUBRICATED

Saves GREASE! *Saves* LABOR! *Saves* BELTS!
If you use belt conveyors—you need Continental Idlers!
Write for Bulletin NED-116
ALL SIZES! ALL TYPES! CG-5302

INDUSTRIAL DIVISION
CONTINENTAL GIN COMPANY
Birmingham 2, Ala.
ATLANTA • DALLAS • MEMPHIS • NEW YORK

For more details circle NED-676 G3 on enclosed inquiry slip

NEW

TOOLROOM TIME SAVER

SIMPLE TO SET UP AND OPERATE ★ LIGHT WEIGHT ★ VERSATILE ★ ACCURATE ★ INEXPENSIVE

Odee-Hone *A Tool for Honing External Surfaces*

One tool for any cylindrical surface from ½" to 2½" in diameter—any length • Removes Stock • Holds accurate size • Generates—round, straight surfaces • Develops any degree of surface finish—without chatter.

USE WITH ANY LATHE, DRILL PRESS OR ELECTRIC DRILL

Manufactured by
MICROMATIC HONE CORPORATION
8100 SCHOOLCRAFT, DETROIT 4, MICHIGAN
Guilford, Conn. • Rockford, Ill. • Los Angeles 21, Calif. • Brantford, Ontario, Can.

For more details circle NED-677 G3 on enclosed inquiry slip

OTC ANNOUNCES

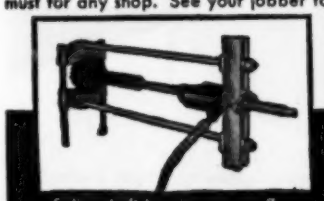
SENSATIONAL **POWER-TWIN** *HYDRAULIC PULLER*
WITH CENTER HOLE
REVOLUTIONARY ADDITION TO THE FAMOUS OTC PULLING SYSTEM

• Fits all OTC pulling units
• Works in any position
• Pushes—Pulls
• Faster than screw operation
• Eliminates torque
• More powerful—No friction
• Easier—just pump strokes
• Safer—remote control

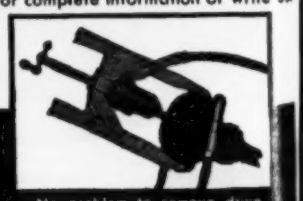
CENTER HOLE permits Power-Twin to do jobs no other hydraulic ram can do . . . makes possible application of direct force . . . fast, easy, unlimited adjustment . . . versatile interchange of parts.

LIGHT — COMPACT — POWERFUL — SAFE

The fastest, easiest working, handiest Push-Puller in history . . . sensational in performance, its time and labor saving ability and low cost make it a must for any shop. See your jobber for complete information or write us.



Spline shaft bearing comes off quickly with Power-Twin and OTC Push-Puller and 952 attachment.



No problem to remove drive gear with OTC Power-Twin and 1003L Grip-O-Matic.

OWATONNA TOOL COMPANY
436 CEDAR STREET • OWATONNA, MINNESOTA

For more details circle NED-678 G3 on enclosed inquiry slip

COMMERCIAL HYDRAULIC OIL
Fluid Power Controls

CYLINDERS.
Single acting
Double acting
Telescopic

are REDUCING COSTS and INCREASING PRODUCTIVITY for the home building industry.

FOR COMPLETE DETAILS ASK FOR YOUR COPY OF CATALOG H-7

THE "COMMERCIAL" SHEARING AND STAMPING COMPANY
YOUNGSTOWN, OHIO
CHICAGO, ILL.
SALT LAKE CITY, UTAH

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Look To The Leader For Lubricating Devices

GITS

40 Years' Leadership

Yes, for 40 years GITS has been setting the standard for industry... solving tough lubricating problems...earning the confidence of manufacturers . . . it's the reason people say, "Call GITS first".

Low Cost

Yes, GITS oil cups can do a complete lubricating job for you . . . prolonging bearing life, reducing maintenance costs, cutting down-time, boosting production... and GITS oil cups cost so little.

World's Largest Selection

Yes, only GITS can offer you such a wide range of standard stock sizes. From *just one* source you can get *all* lubrication devices in *any design* for *any purpose.*

Consistent Top Quality

Yes, GITS is known for uniform quality in design, materials and machining . . . this means constant, dependable performance for you. Inferior products can cost you time and money. Demand the best ...get GITS.

Write Today for FREE CATALOG No. 60A Use it as your handy reference for lubricating devices

Oil Hole Covers, Oil Cups, Grease Cups, Bottle Oilers, Gauges, Gravity-Feed, Wick-Feed, Constant Level, Vibrating Rod Styles. Threaded or Drive-Type, Elbow or Straight.

GITS BROS. MFG. CO.
1833 S. Kilbourn Ave. Chicago 23, Ill.

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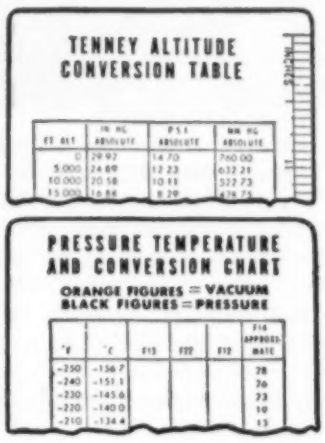
New Processes & Materials

CONVERSION TABLES for altitude-to-pressure data

Of value to designers of equipment to be used under high altitude conditions is this 2 x 6-in. plastic pocket-card one side of which converts altitude to pressure in inches of mercury, pounds per square inch and millimeters of mercury. This side includes 6-in. straight edge marked off in 1/16-in. Other side gives pressures of Freon 13, 22, 12 and 14 over wide range of temperatures, both Fahrenheit and centigrade. Altitude conversions run from 0 to 95,000 ft in 5000-ft increments, and from 100,000 to 260,000 ft in 10,000-ft increments. Other table ranges from −250° to 110° F in 10° increments. Made by **Tenny Engineering, Inc.,** Dept. TS, 26 Ave. B, Newark 5, N. J.



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BAKED DECAL has hard, permanent finish

For nameplates or product marking, the Perma-Cel decal is baked after application for at least ten minutes at approximately 280° F. It adheres well to most surfaces, including unfinished metals such as steel and aluminum, or to urea and baked enamel type surfaces. Water may be used for the initial application. It resists extremely high temperatures, abrasion, weather and long wear. Either closed type designs or open lettering are available in a variety of colors. Made by **American Decalcomania Co.,** Dept. ND, 4344 W. Fifth Ave., Chicago 24, Ill.

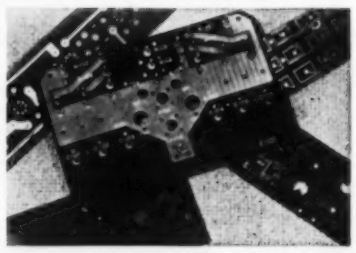
▲ For more details circle **NED-682 G3** on enclosed inquiry slip ▲

BONDING PROCESS for rubber-to-metal applications

Where precision accuracy is important in rubber-to-metal bonding, Permadizing process offers a material whose dimensional tolerances can be held as close as 5 micro-inches finish. High production process eliminates flash and flaring of rubber and bonding agent on metal inserts and minimizes rejection and rework. It permits bonding aluminum to many natural, synthetic or silicone rubbers. Process gives consistent results over long or short runs. Bonded parts can be used in a wide range of temperature conditions and feature low swell and high resistance to aromatic fuels and hydraulic fluids. They can be made corrosion resistant. Process developed by **Stillman Rubber Co.,** Dept. D, 5811 Marilyn Ave., Culver City, Calif.

▲ For more details circle **NED-683 G3** on enclosed inquiry slip ▲

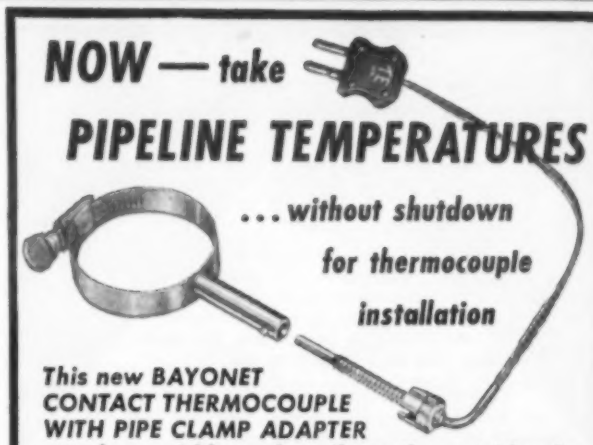
FOIL-CLAD LAMINATED PLASTICS for printed circuit applications



Bond strength of 4 to 6 lb is featured by Synthane laminated plastics now available clad with copper or aluminum foil for printed circuit applications. Laminates are offered in 36 x 36-in. sheets with foil thicknesses ranging from 0.00068-in. to 0.0094-in. Foils can be bonded to one or both sides, and surfaces are free of wrinkles, pits, scratches or pinholes. Bonding agent resists moisture and matches base laminate in NEMA electrical characteristics. Accurate circuit reproduction on clad laminates can be achieved by any commercial printing process, such as silk screening or photo etching. Machinability is good for subsequent punching operations. Made by **Synthane Corp.,** N. E. River Rd., Oaks, Pa.

▲ For more details circle **NED-684 G3** on enclosed inquiry slip ▲

NOW — take PIPELINE TEMPERATURES



... without shutdown for thermocouple installation

This new BAYONET CONTACT THERMOCOUPLE WITH PIPE CLAMP ADAPTER attaches quickly and easily to the *outside* of a pipe—does not project into pipe. It is installed without inserting wells, tees or drilling and tapping holes. The sensitive tip is spring-loaded for good thermal contact and responds rapidly to temperature changes of the pipe surface. Furthermore, the thermocouple can be detached and used again elsewhere. Excellent for steam, process, or heat transfer lines where you must know temperatures at various points. Inexpensive . . . accurate.

Standard adapters fit pipes from ¼" to 4". We can make even larger sizes, if you wish.

SEND FOR BULLETIN 22-100-T

Thermo Electric Co., Inc.
FAIR LAWN NEW JERSEY

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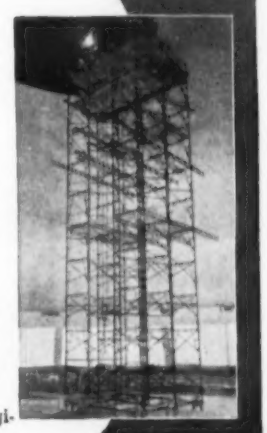
COST CUTTING BECOMES SIMPLE ARITHMETIC WITH ADVANCE SCAFFOLDING



The ability to make money is built into ADVANCE tubular steel scaffolding. Each feature — self-contained, simple to operate Cam Locks . . . trigger action panel attaching Stack Locks — is employed so as to assure user-profit. Unequaled acceptance and repeat rentals by building management and maintenance men prove that ADVANCE scaffolding is best for any construction and maintenance problem.

Are you getting in on the simple arithmetic that spells savings in dollars for scaffolding users? ADVANCE can help you get started!

Write direct for free literature, engineering and specification data.

BEAVER ADVANCE
ADVANCE SCAFFOLD DIVISION
Beaver Art Metal Corp., Ellwood City 5, Pa.

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RUGGED, DEPENDABLE, ACCURATE GAUGES *For Every Purpose*

If you have requirements for pressure, temperature, flow, level or electrical measuring instruments, for the products you make or for manufacturing operations, it will pay you to consult with U.S. Gauge, the world's largest manufacturer of accurate instruments.

Write today and tell us about your requirements.

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Company _____
Address _____ City _____ State _____

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WATSON-STILLMAN
HYDRAULIC POWER TOOLS FOR INDUSTRY

Send for your copy of Bulletin A-5 . . . It's Free.

WATSON-STILLMAN FITTINGS DIVISION
H. K. PORTER COMPANY, INC.
Roselle, New Jersey

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For factory floors that will not chip . . .
For skid-proof walks where feet won't slip . . .
On all machines that you equip . . .
For floors complete or center strip . . .
Use safe, long-lasting MULTIGRIP!

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multigrip
FLOOR PLATE

UNITED STATES STEEL CORPORATION, PITTSBURGH
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UNITED STATES STEEL SUPPLY DIVISION, CHICAGO
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UNITED STATES STEEL

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Longer Life for Chains and Sprockets!

this book tells you how

Here's a pocket-sized handbook that's packed with valuable tips on chain and sprocket maintenance. There are chapters on installation, lubrication, operation, repair and storage as well as a number of helpful sketches and charts. It's a book that saves you important money. Send for as many copies as your organization can use.

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CHAIN BELT COMPANY
4686 W. Greenfield Avenue
Springfield 2, Massachusetts 53-500

Please send me.....copies of Bulletin 51-7.

Name.....

Company.....*Dept*.....

Address.....

City.....*State*.....

For more details circle NED-690 G3 on enclosed inquiry slip

SHEET METAL FABRICATOR
heavy-duty type has 30½-in. throat

Model 10-C sheet metal fabricator has a 27-in. throat depth with back gage and a 30½-in. throat depth without back gage. The 56 x 37-in. work table provides full support for large work in punching, notching and nibbling operations. Features include a punch assembly holder which automatically aligns punches and dies and swings out for accessibility in changing tools; back and side gages; and a head which operates with minimum noise and vibration at 165 strokes a minute. The machine also has drawer type cabinets on both sides to hold punches and dies and provide storage space. A foot trip lever is provided, also a nonrepeat hand trip lever. Made by **Wales-Strippit Corp.**, 363 Payne Ave., North Tonawanda, N. Y.

For more details circle NED-691 G3 on enclosed inquiry slip

MIXER-MULLER
can heat or cool while mixing

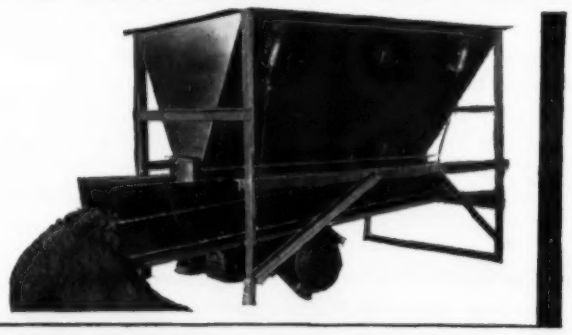
Simpson LF mix-muller, a laboratory size unit, makes possible a small scale duplication of production mixing for establishment of mixing standards or checking quality and efficiency. Machine has a 24-in. diameter pan, and all components are in a direct scale to large production units. Spring-loaded mullers can be adjusted to exert pressures from 30 to 80 lb, and the unit can be adapted for heating or cooling while mixing. Stainless steel and other metal constructions are available. Legs can be adjusted to a comfortable working height. Made by **National Engineering Co.**, Dept. NED, 549 W. Washington Blvd., Chicago 6, Ill.

For more details circle NED-692 G3 on enclosed inquiry slip

Threading Tools

Sheffield Corp., Murchey Div.—Such products as radial die heads, both rotating and nonrotating type, tangent die heads, solid adjustable taps, machine taps, pipe taps, chasers and accessories, as well as special threading tools are covered in descriptive illustrated 14-page catalog 153. Tabulated specifications and dimensional drawings are included.

For more details circle NED-693 G3 on enclosed inquiry slip



If you use bin-stored materials you can handle them better with a Simplicity Os-A-Veyor type bin feeder

If you move anything that can be stored in a bin, chances are a Simplicity Os-A-Veyor type bin feeder will cut handling costs and speed up your operations. Simplicity Bin Feeders practically eliminate bridging and stoppage because they feed from the full length of the bin—materials will flow as you need them. Simplicity bin feeders are ideal, too, for storing and moving materials that are improved by tempering. Simplified power and operating mechanism keeps maintenance costs low, makes servicing easy. Write us today for complete information.

Simplicity ENGINEERING CO., DURAND, MICH. 101

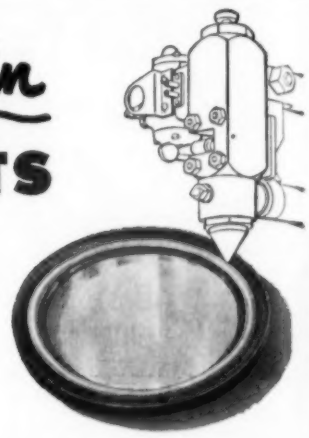
For more details circle NED-694 G3 on enclosed inquiry slip

NEW ADJUSTABLE DRILL JIG
eliminates layout; cuts drilling time

Used for drilling holes through round stock and hex stock from ¼" to 2" and cap screws from ¼" to 1¼", the new Mathewson Adjustable Drill Jig eliminates layout and can cut drilling time on small lots to a fraction. And it eliminates the costs of special jigs for larger quantities. Holes for cotter pins, set screws, drive pins for bayonet joints, oil holes in tubular sections, and wiring holes in cap screws, are all typical of the operation that can be done more economically with this jig. Hole diameters range from .052" to .531", using your A.S.A. standard slip bushings. The hardened V-block has two 60-degree V's for centering round or hexagonal stock, one for ¼" to 21/32" diameter, one for 21/32" to 2" diameter. Adjustable stop for locating work longitudinally for drilling any distance from end, may be used on either side. Adjustable bushing carriers hold slip bushings and clamp work securely. Jig highly successful in permitting use of inexperienced drill operators. For circular write to: **Mathewson Machine Works**, 22 Hancock St., Quincy, Mass. *Advt.*

For more details circle NED-695 G3 on enclosed inquiry slip

Flowed-in GASKETS



can cut costs and improve results!

Now! *Flow* gaskets into place at speeds up to 300 per minute. Gaskets become integral with the part — meet a wide range of problem conditions.

SIMPLE APPLICATION. Instead of installing pre-cut gaskets by hand, you merely *flow* a synthetic resin or rubber compound into position (horizontal or vertical surface). After baking, compound becomes solid, rubbery.

BUILT-IN RESISTANCE PROPERTIES. You create effective seals against weather, gases, solvents, moisture, oils, hydraulic fluids, pressure. Form shock-resistant cushions.

IMPORTANT ECONOMIES. You eliminate stamping, gluing, crimping, welding, and other time-consuming operations. Save on materials, too.

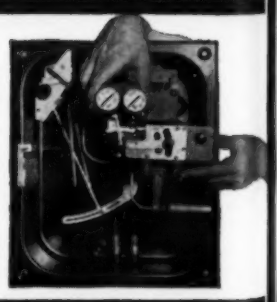
SEND FOR BOOKLET NOW.

DEWEY and ALMY Chemical Company
Cambridge 40, Mass.

For more details circle NED-696 G3 on enclosed inquiry slip

TEMPERATURE & PRESSURE RECORDERS and CONTROLLERS

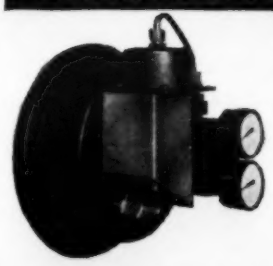
EASY TO CLEAN



PENN air operated controllers and transmitters, piped with flexible tube, are readily removable for inspection or cleaning.

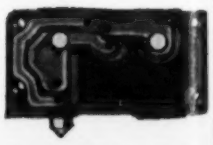
The "Worm" plate, a PENN exclusive, permits easy cleaning of air passages.

PNEUMATIC TRANSMITTER



Compact Pressure Gage Pneumatic Transmitter, takes no more space than 6" gage.

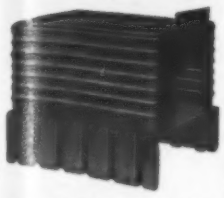
PENN'S Exclusive "WORM" PLATE



More than 40 Years' Experience . . . more than 10,000 Installations

PENN INDUSTRIAL INSTRUMENT CORP.
PENN Bldg., 4110 HAVERFORD AVE.
PHILADELPHIA 4, PENNA.

For more details circle NED-697 G3 on enclosed inquiry slip



Type PB-650 box and platform units with sliding end door.

Type PB-120L box and platform.

Type B-80C box unit equipped for crane handling; corrugated bottom.

Preferred... THROUGHOUT INDUSTRY

Republic STEEL BOXES and SKIDS

● Designed to give maximum strength and rigidity, Republic Steel Boxes and Skids are preferred throughout industry for their ability to carry the load and keep things moving. Specify "Republic" when you want the best in steel boxes and skids.

Write for illustrated catalog.

PRESSED STEEL DIVISION
REPUBLIC STEEL CORPORATION
6206 TRUSCON AVE. • CLEVELAND 27, OHIO

For more details circle NED-698 G3 on enclosed inquiry slip

CONTROL COSTS

Stop human errors in reading, remembering, recording! Toledo Printweigh Scales provide accurate printed weights . . . *accurately* recorded. Send for bulletin 2021. Toledo Scale Co., Toledo 1, Ohio.

TOLEDO®
Headquarters for SCALES

For more details circle NED-699 G3 on enclosed inquiry slip

WRITE YOUR OWN TICKET FOR
Quality Wire!

SPECIFY SENECA FOR WIDE RANGE OF USES

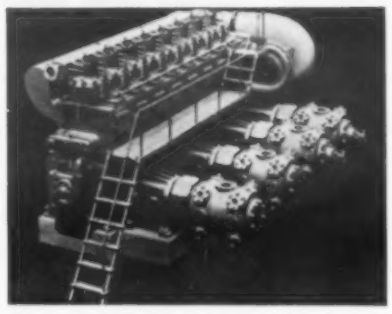
- Aircraft
- Armature
- Cable
- Car Seal
- Cotter Pin
- Curtain Spring
- Flexible Shaft
- Glass Netting
- Hair Pin
- Lock Spring
- Piston Ring
- Plow Steel
- Ring Traveler
- Rope
- Spark Coil Core
- Spring
- Stapling
- Stitching
- Weaving

Whatever your needs in wire . . . specify SENECA for *top quality* and *uniformity!* High or low carbon steel wire . . . aluminum . . . bronze. Sizes No. 40 W & M (.007) and larger . . . round, half round, oval, square, flat, straightened and cut. Finishes—bright, soft annealed, coppered, liquor, tinned, bright galvanized, oil tempered, enameled. Write about your requirements.

SENECA WIRE & MANUFACTURING COMPANY, FOSTORIA, OHIO
Representatives in practically All Principal Cities

For more details circle NED-700 G3 on enclosed inquiry slip

ENGINE-DRIVEN COMPRESSOR
2-cycle unit is turbocharged



Compact and powerful, model TRA turbocharged two-cycle right angle gas engine-driven compressor unit has a unitized, integrated design. Model TRA-8, which develops 1320 brake horsepower, has eight vertical in-line cylinders with 14-in. bores and 14-in. strokes integrally connected to horizontal compressor cylinders. Units are said to have 50 per cent more power than nonturbocharged units of comparable bore and stroke. Fuel consumption is low and less cooling water is used. There is no exhaust pulsation and the fuel consumption curve is flat. The turbocharger operates at conservative speeds and temperatures. Made by **Clark Bros. Co.**, 600 Lincoln Ave., Olean, N. Y.

For more details circle NED-701 G3 on enclosed inquiry slip

INDUSTRIAL FLUOROSCOPE
for mass castings inspection

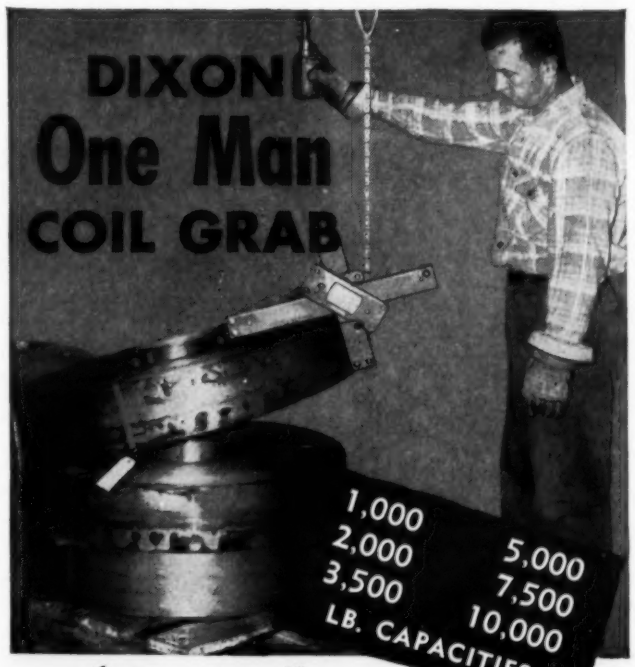
Designed for the mass inspection of light alloy castings and plastic products, the Scopemaster is also useful for inspecting concealed assemblies; hydraulic, mechanical and electrical components; and for new product development in the laboratory. The unit operates from a 110-v 60-cycle source. It has a 9 x 19-in. front opening through which products are inserted for viewing. Internal cavities 0.040-in. in size, or approximately 6 per cent of the metal thickness in aluminum alloy castings can be detected. A single external control handle permits parts to be moved in any lengthwise or crosswise direction while under the x-ray beam. Made by **General Electric Co.**, X-Ray Dept., Dept. DG, 4855 Electric Ave., Milwaukee 14, Wis.

For more details circle NED-702 G3 on enclosed inquiry slip

Tubular Paper Capacitors

Pyramid Electric Co.—20 pages of data on Glasseal hermetically sealed tubular paper capacitors are included in illustrated catalog PG-3. Tables show typical electrical characteristics. Units included cover capacitance range of 0.001 to 1.0 mfd, voltage range of 100 to 600 v dc and temperature range from −55 to 125° F.

For more details circle NED-703 G3 on enclosed inquiry slip



Automatically ADJUSTS TO COIL SIZE

Seven standard models available to handle coils from 1" to 48" wide.

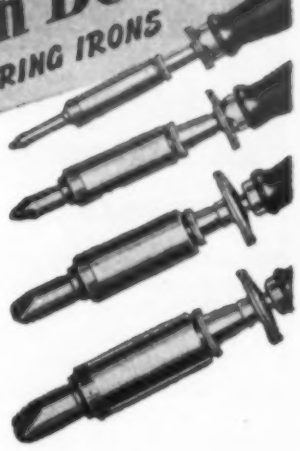
Export Dept.: 306 W. Washington Blvd., Chicago 6, Ill.

DIXON *Automatic Tool, Inc.*
2310 23rd Ave. • ROCKFORD, ILLINOIS

For more details circle NED-704 G3 on enclosed inquiry slip

EXPERIENCE SINCE 1894

Built into American Beauty ELECTRIC SOLDERING IRONS



FOR MORE YEARS OF EFFICIENCY

Since 1894 these electric soldering irons have demonstrated their efficiency and durability . . . Manufacturing plants, service, maintenance and repair shops choose them for their durability and efficiency.

TEMPERATURE REGULATING STAND

A thermostatically controlled device for maintaining an electric soldering iron at any desired heat while at rest. Adjustable from low or warm to full working temperature.

NO. 117-2

Write for Literature

AMERICAN ELECTRICAL HEATER COMPANY
DETROIT 2, MICHIGAN

For more details circle NED-705 G3 on enclosed inquiry slip

Fast Motor Service

Factory approved motor service in every industrial area from 97 Allis-Chalmers Certified Service Shops

ALLIS-CHALMERS CERTIFIED SERVICE SHOPS are independent service shops which meet rigid standards for ability, experience, equipment and business integrity. They use factory approved methods and parts and do your work promptly at a fair price.

Of course, Allis-Chalmers Certified Service Shops give good service on any electrical equipment, of any make. To find the Certified Service Shops in your area, call your nearby Allis-Chalmers District Office or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-3867

ALLIS-CHALMERS

For more details circle NED-706 G3 on enclosed inquiry slip

PET POWER TOOLS

You get ALL these features when you buy PET DRILLS!

If you want the best, take an extra look at the PET Superduty Drill above! Here's a continuous-duty drill—built to *work* right and *handle* right. And, the price is right, too! All features shown are *standard* in PET Superduty Drills—at a *standard drill price!* Complete line of 54 ¼", ⅜" and ½" models gives you wide selection—in pistol or saw-type grip. Use coupon below to get complete facts!

PORTABLE ELECTRIC TOOLS, INC., 320 W. 83rd St., Dept. ND73, Chicago
In Canada: Portable Electric Tools, Ltd., 452 Birchmount Rd., Toronto

MAIL COUPON FOR FREE BULLETIN

Please send me free PET Superduty Catalog and name of nearest distributor.

Name_____ Title_____
Company_____
Address_____
City_____ State_____

For more details circle NED-707 G3 on enclosed inquiry slip

NEW Spray Booth lowers maintenance costs!

The enemy of economy in most spray booth installations is time-consuming cleaning. But now, these features of Binks DUC Water-Wash Booth provide the economy you've been seeking:

- *Binks DUC Booth cuts cleaning time* because it prevents build-up of pigment on booth surfaces.
- *Binks DUC Booth cuts cleaning time* by eliminating difficult maintenance. Such major parts as baffles and water curtain come out by hand without tools.

Send for Bulletin DUC—it's FREE!

Describes 7 major advantages booth provides to save you time and money. No obligation. Write: Binks Manufacturing Company 3122-34 West Carroll Ave., Chicago 12, Ill.

Binks EVERYTHING FOR SPRAY PAINTING

GUNS • SPRAY BOOTHS • MATERIAL TANKS • EXTRACTORS & ACCESSORIES

REPRESENTATIVES IN PRINCIPAL U. S. & CANADIAN CITIES • SEE YOUR CLASSIFIED DIRECTORY

For more details circle NED-706 G3 on enclosed inquiry slip

B.F.Goodrich

TW TIRE AND WHEEL ANALYSIS man puts an end to unnecessary industrial tire cutting; chipping

Save as much as 50% on tire costs

Debris-strewn floors, sharp projections along trucking aisles or on the trucks themselves, overloading and collisions all can cut and chip an industrial tire. Or tire failure may be caused by the tire being used on a job for which it was never designed.

The B. F. Goodrich Tire and Wheel Analysis man can put an end to unnecessary tire troubles, can save you up to 50% on industrial tire costs. He knows which tire is right for any given set of operating conditions—solid, semi-pneumatic or pneumatic—which tread design and compound is best to use. Without obligation, he will put his training to work on your problems, recommend the right tires for you to use, give you maintenance tips that can cut costs as much as 20%.

The TW Analysis man's advice is impartial, for B. F. Goodrich makes, and BFG retailers sell, a complete line of industrial tires. Use the tires he recommends and save yourself unnecessary tire expense. Get increased, maybe even doubled, tire life.

To find out more about this free B. F. Goodrich Tire and Wheel Analysis Plan, send in the coupon or call your BFG retailer. A special TW Analysis Plan is available for manufacturers of industrial handling equipment.

Specify B. F. Goodrich tires when ordering new equipment

The B. F. Goodrich Co.
Department TW-162, Akron 18, Ohio.

Please send me:

☐ *Additional information* on your new Tire and Wheel Analysis Plan

☐ A free copy of your "Industrial Tire Guidebook".

Name _____

Company _____

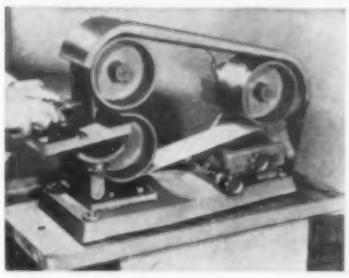
City _____ Zone ____ State ____

RESEARCH KEEPS B.F.Goodrich FIRST IN RUBBER

For more details circle NED-709 G3 on enclosed inquiry slip

CARBIDE TOOL FINISHING

machine uses abrasive paper belt on special belt type machine



Intended to supplement, and in many cases, replace diamond wheel method of finishing carbide tools is a final finishing method developed jointly with Hammond Machinery Builders. It uses abrasive paper belts and a new type belt machine to simplify carbide tool sharpening, reduce over-all costs and increase tool life. Machine makes it possible to finish the flat top of the tool.

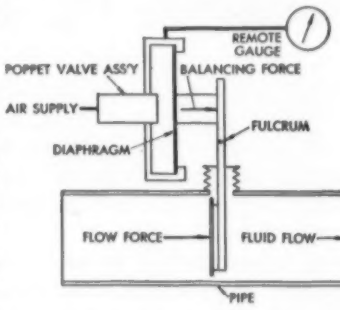
Sharpening technique consists of rough grinding on a standard grit 60 silicon carbide wheel and finishing the side and top of the tip on the belt machine using a Tri-M-Ite Resinite abrasive belt ranging from 60 to 150 grit, depending on the edge required. A 1/16-in. wide land is finished from the cutting edge down. Machine is known as carbide belt finisher model 454 and uses a ½-hp motor and 4 x 54-in. belt. Additional information from **Minnesota Mining & Mfg. Co.**, Dept. NED, 900 Fauquier St., St. Paul 6, Minn.

For more details circle NED-710 G3 on enclosed inquiry slip

FLOWMETER

for pressures up to 3000 psi combines safety and adaptability

Eliminating purging or freezing of instrument lines, the Flovane flowmeter utilizes a flow velocity principle instead of drop taps. The metered fluid never leaves the pipe, since indication is remote and obtained by air pressure to the indicator rather than by routine fluid to be measured through the gage. Unit is explosion-proof, electricity is not used.



It can be used in any size pipe and installed in any plane, and will measure pressures from 0 to 3000 psi. In pressure differential type of flow indication, accuracy of 0.25 per cent is achieved. Illustration shows how circular vane is attached to one end of lever, with diaphragm and poppet valve at the other end. Fulcrum is located at predetermined point between vane and diaphragm to give required multiplication of flow force. Made by **Link Engineering Co.**, Flovane Div., Dept. NED-9, 13844 Elmira Ave., Detroit 27, Mich.

For more details circle NED-711 G3 on enclosed inquiry slip

SAVE Maintenance AND Towel Costs WITH

Sani-Dri ELECTRIC Hand or Hair Dryers

Save valuable maintenance time and eliminate continuing towel expense. New, improved features make Sani-Dri faster drying . . . provide quick, automatic hand or hair drying service 24 hours a day year after year! Sani-Dri is a permanent solution to washroom sanitation and drying problems—and SAVES UP to 85% of WASHROOM COSTS!

All Sani-Dri Electric Dryers are GUARANTEED, and have carried the Underwriter's Seal of Approval for over 18 years!

SEND FOR NEW BROCHURE showing all models and installation pictures.

Distributors in Principal Cities

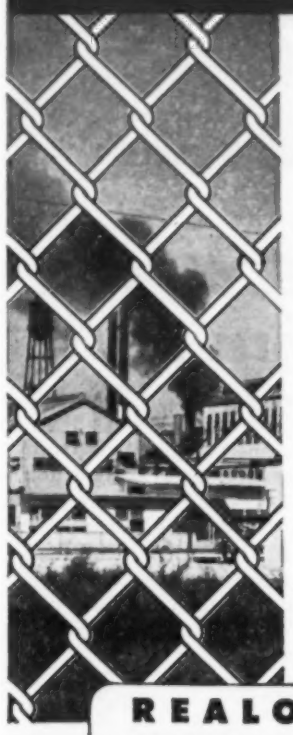
THE CHICAGO HARDWARE FOUNDRY CO.

"Dependable Since 1897"

1973 Commonwealth Ave. • North Chicago, Ill.

For more details circle NED-712 G3 on enclosed inquiry slip

REALOCK FENCE



GIVES *Positive* PROTECTION

Positive protection for your grounds and property is assured with Realock Fence. In addition, all fittings, hinges and locking devices have bolts on the inside, secure from outside tampering.

Noted for its rugged construction and long-lasting weather resistance, Realock Fence can be depended upon for years of dependable, trouble-free service.

For additional information write our nearest sales office or consult your classified telephone directory.

THE COLORADO FUEL & IRON CORPORATION
Denver, Colorado

THE CALIFORNIA WIRE CLOTH CORPORATION
Oakland, California

WICKWIRE SPENCER STEEL DIVISION
Buffalo, New York

REALOCK FENCE

THE COLORADO FUEL & IRON CORPORATION CF&I

BRANCHES IN ALL KEY CITIES

For more details circle NED-713 G3 on enclosed inquiry slip

MYSTIK® BRAND • SELF-STIK

New!

Flexstron

Trademark 6220

"Tarzan of the Tapes"

cuts packaging costs . . . speeds operations!

Flexible as ribbon . . . Strong as wire! A tough, rubber-fibrous, high tensile filament reinforced tape for heavy duty packaging and packing jobs—strapping, bundling, binding, reinforcing, palletizing. Safe to handle—needs no special equipment—grips instantly—conforms to all shapes—will not cut into cartons. Write for full information and free sample. Mystik Adhesive Products, 2657 North Kildare Ave., Chicago 39.

T. M. Mystik Registered © 1953 Mystik Adhesive Products

For more details circle NED-714 G3 on enclosed inquiry slip

WHY BUY 3 to 5 CANS when only one will do?

No—a WITT CAN won't hold more than any other Can of equal capacity. However—WITT CANS are *guaranteed to outlast 3 to 5 ordinary Cans.* Here's an offer of reduced purchases and dollar savings worth investigating. Perhaps you're wondering why WITT CANS last so long. Here are just a few reasons:

STRAIGHT SIDES—assure extra resistance to rough handling.
DEEP ROLLING CORRUGATIONS—run full length of Can, adding further rigidity.
HEAVY GAUGE STEEL—provides battleship ruggedness.
STRUCTURAL STEEL BANDS—protect top and bottom of Can and act as shock absorbers.
HOT DIP GALVANIZING—a hand process after fabrication, insuring heaviest possible rustproofing.
PINCH-PROOF HANDLES—for easy handling.
STURDY LID—snug fitting, yet easy to remove.

Witt Cans WITT CANS HAVE THE "RIGHT" ANGLE *"Originators of the Corrugated Can"*

THE WITT CORNICE COMPANY, 2124 WINCHELL AVENUE, CINCINNATI 14, OHIO

For more details circle NED-715 G3 on enclosed inquiry slip

NEW! LEWIS AUTOMATIC TRIGGER ACTION SAFETY KNIFE

Quickly and Successfully Adopted for Use by America's Leading Concerns

No other cutting tool like it. Eliminates the hazards of exposed cutting blades. You must operate it to appreciate its swift and sharp cutting . . . always automatically ready for use. Trigger action gives full blade visibility with safety.

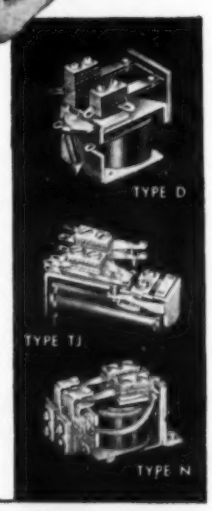
Retail Price $1.50

FLASH BOX OPENER CO., Inc.
52 W. Houston St. • New York 12, N. Y.

▲ For more details circle **NED-716 G3** on enclosed inquiry slip ▲

When you need SMALL SPACE RELAYS...

Comar can supply the correct relay to suit your specific needs. Type N with dimensions of only 2⅛" x 1⅞" x 1⅝" for 4PDT, and Type D with 1¾" x 1 17/32" x 1 5/32" for 4PST, are ideal for a wide range of general industrial purposes. Contacts up to 10 amperes available. For military and general industrial applications, the Type TM which is only 1⅜" x 1½" x 31/32" for 4PDT, or Type TJ which is only 1⅞" x 1½" x 31/32" for 4PDT, or Type TW which is only 1 11/32" x 1⅞" x ¾" for DPDT, have provided the solution to small space problems. Standard units carry up to 3 amperes on contacts. Types TM, TJ and TW available hermetically sealed or open. Relays can be modified to meet special requirements. Write!



Comar ELECTRIC COMPANY — Send for Catalog

- RELAYS
- SOLENOIDS
- COILS
- TRANSFORMERS
- SWITCHES
- HERMETIC SEALING

3349 Addison St., Chicago 18

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Save BIG MONEY ON BABBITT by using PROMET XXX LONG SERVICE LEAD BASE BABBITT

A fine, velvety grain babbitt made entirely from pure virgin metals, perfectly alloyed and heat treated to withstand tremendous loads at high speeds and elevated temperatures that would be dangerous with other babbitts.

Tensile	10,000
Elong	5.5%
Compress Strength	10,000

Promet XXX will not score, cut or powder even in lubrication failures. The coefficient of friction is considerably less than that of tin babbitts, thus reducing power loss and wear. The entire bearing surface wears uniformly, without pitting.

Simply heat to 900°-1000° F. and pour. Can be heated to 2000° F. without burning or injury. Repouring only refines it. There is no appreciable shrinkage, hence a better contact with supporting shell, a more solid, rigid bearing.

Ideal for use in blowers, cement mills, clay working machines, compressors, conveyors, crushing machinery, diesel engines, dredges, fans, machine tools, mining machinery, motors and generators, paper mills, pumps, rock and gravel plants, saws, steel mill bearings and sugar mills.

Supplied in 10 lb. pigs.

IMMEDIATE DELIVERY

Write today for service data sheets and quotations.

THE AMERICAN CRUCIBLE PRODUCTS CO.
327 Oberlin Avenue Lorain, Ohio, U.S.A.

▲ For more details circle **NED-718 G3** on enclosed inquiry slip ▲

INDUSTRIAL FOG NOZZLE for fighting all types of fires

Disastrous water damage to plant equipment, materials and products is minimized with this low-cost fog nozzle for combating industrial fires. Recommended for use with all 1½-in. industrial hose and hose racks, fog nozzle opens from shut-off position immediately to a 160-degree full-fog position. Dense fog precludes the spreading of liquid fires and disperses poisonous fumes, gases and smoke as well as inflammable vapor-air mixtures. Wide, intense curtain of water mist smothers the fire quickly, cooling it below the burning point. It forms a wide protective shield that guards the fire fighter against fire and heat. It also prevents the fire from flashing back over previously extinguished areas. Double shut-off is provided by turning nozzle to extreme right or left. Made by **Akron Brass Mfg. Co.**, Dept. OH, Wooster, O.

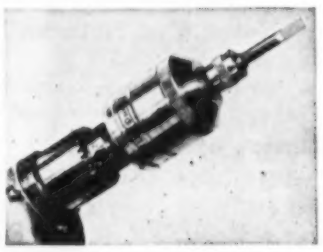
▲ For more details circle **NED-719 G3** on enclosed inquiry slip ▲

KEYWAY BROACH KIT in both carbon and high speed steel

Covering hole sizes in both ⅛ and 1/16-in. increments, the 1-1A keyway broach kit is available in both carbon and high speed steel. It provides broaches and bushings for standard width keyways in 18 bore diameters conforming to American key standards. By interchanging broaches and bushings, 36 different combinations of keyways can be cut. Made by **du Mont Corp.**, 38 Beacon St., Greenfield, Mass.

▲ For more details circle **NED-720 G3** on enclosed inquiry slip ▲

SCREWDRIVER ATTACHMENT impact type for electric drills



Electric drills can be converted into impact screwdrivers by the Dril-O-Driver, an attachment which permits use of fifty-four ¼-in. drive standard tool accessories. Connector furnished with the attachment adapts accessories for use with drill. Sockets are available for driving hex and square nuts, Phillips, clutch, Allen, Reed & Prince, wood and metal screws. Operator controls force and speed from zero to full speed of the drill. Attachment is offered ready for tightening in the drill chuck. Made by **Drilo Corp.**, Carson & Second Sts. S.S., Pittsburgh 19, Pa.

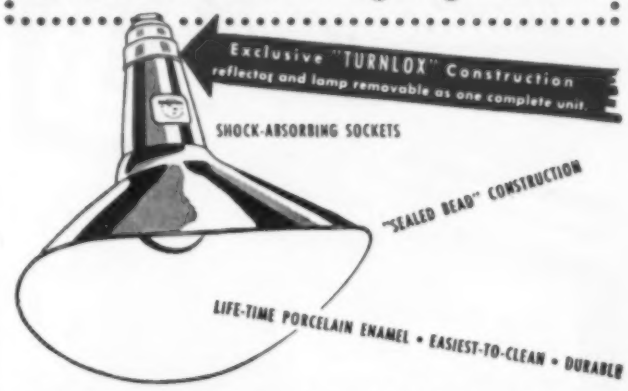
▲ For more details circle **NED-721 G3** on enclosed inquiry slip ▲

INDOOR-OUTDOOR CRANE rated 4 tons at 10-ft extension

Combining features of crawler, truck and erection cranes with those of mobile shop cranes, this hydraulic mobile crane is adaptable to wide range of operations both in and outside plants. All movements including steering are actuated by hydraulic power. It has 24-ft maximum reach, 24-ft vertical lift, 30-ft below ground level cable hook reach, 9-ft over-all height, 8-ft width, 360-degree boom rotation, 15-mph road speed under full load, will negotiate 20 per cent grades and has minimum turning radius of 15 ft. Capacities of tractor and truck mounted models are 3200 lb at 18-ft radius and 8000 lb at 10-ft radius. Attachments available for diversifying applications of crane include clamshell, lifting magnet, fork lift, loader, bulldozer and snowplow. Made by **Austin-Western Co.**, 1953 Diller St., Aurora, Ill.

▲ For more details circle **NED-722 G3** on enclosed inquiry slip ▲

Solves Difficult Lighting Problems in Accord with Modern Lighting Practice



This unit is especially designed to solve lighting problems where overhead obstructions make overhead illumination difficult or unsatisfactory, where high ceilings require special units or where localized lighting of vertical areas is necessary. Exclusive "Turnlox" construction makes these units especially desirable because it makes reflector-maintenance simple and economical.

WRITE FOR FREE DATA BULLETIN on a wide size range of Benjamin "Turnlox" Elliptical Angle Units (75 watt to 750–1500 watt).

BENJAMIN ELECTRIC MFG. CO.
Dept. W, Des Plaines, Illinois

"TURN-LOX" BENJAMIN Elliptical Angle
PORCELAIN ENAMEL LIGHTING UNITS
DISTRIBUTED EXCLUSIVELY THROUGH ELECTRICAL WHOLESALERS
3051R

▲ For more details circle **NED-723 G3** on enclosed inquiry slip ▲

FOR FASTER AND EASIER DRILLING ANY SIZE HOLE IN ANY MASONRY MATERIAL

Cyclo-twist
Cyclo-Core
Thunder-twist
Thunder-Core

CARBIDE-TIPPED BITS
For Drilling Holes ⅛" To 6" Diameter in
TILE · BRICK · CONCRETE · GRANITE
or any other Masonry Material

The Complete Line That Answers *THESE* Questions Before You Start The Job!

HOW BIG? 3/16" to 6" diameters in fractional sizes.

HOW DEEP? Over all lengths from 3" to 18" and to 36" or more with extensions.

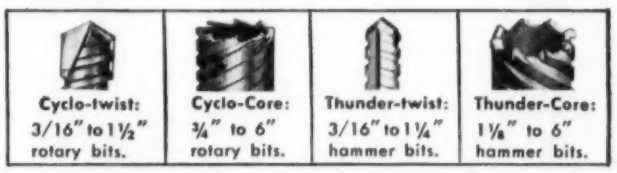
HOW HARD? Any masonry material from plaster to granite.

HOW FAST? One inch a minute is commonplace in concrete.

WHAT POWER? All leading makes from hand brace to electric or pneumatic rotary or hammer drills.

Take the time-and-expense gamble out of any drilling job. The guesswork has been engineered *out* — the known performance has been engineered *in* — by exacting test and practical proof on toughest jobs. Every detail is yours in our easy-to-use Guide Chart. Check these superior features of the world's only complete Masonry Bit Line:

- ***Special Tungsten-Carbide Tips brazed to alloy steel shank.***
- ***Each Carbide Cutting Edge has its own spiral dust exit — removes dust fast.***
- ***Carbide Tip Cutting Diameter equals body diameter for maximum strength.***
- ***Every Useful Accessory for precision centering and efficient use of power.***



Cyclo-twist:	Cyclo-Core:	Thunder-twist:	Thunder-Core:
3/16" to 1½" rotary bits.	¾" to 6" rotary bits.	3/16" to 1¼" hammer bits.	1⅛" to 6" hammer bits.

Special BUY and TRY Offer

If your supplier does not stock and display the New England Carbide Line — you can order direct any two Cyclo-twist bit-sizes you use most — by filling out and mailing the Action Coupon below. We will send promptly and postpaid (including Guide Chart and price list of entire Carbide Bit Line) through the local merchant you specify:

NEW ENGLAND CARBIDE TOOL CO., INC.
60E Brookline Street, Cambridge 39, Mass.

Cyclo-twist: Standard lengths x diam.: 3/16" or ¼" — $1.80 · 5/16" — 1.95 · ⅜" — 2.15 · 7/16" — 2.40 · ½" — 2.70 · 9/16" — 3.00 · ⅝" — 3.30 · 11/16" — 3.75 · ¾" — 4.20 · ⅞" — 5.10 · 1" — 7.20 · 1⅛" — 8.70 · 1¼" — 10.50 · 1½" — 12.90. Extra shank lengths stocked and available: 12", 20", 28", 36" — at proportionate extra cost.

— — FILL OUT AND MAIL THIS ACTION COUPON NOW — —

New England Carbide Tool Co., Inc., 60E Brookline St., Cambridge 39, Mass.

Please send through the supplier, noted below, two (2) Cyclo-twist Carbide Tipped Bits as specified. I will pay my supplier on delivery.

( ) Cyclo-twist Bit (Rotary type) Standard length by diameter .....
( ) Cyclo-twist Bit (Rotary type) Standard length by diameter .....
Dealer Name & Address .....
.....
Your Name .....
Address ..... City ..... State .....

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Write for Free Darnell Manual

With this 192 page problem-solving book in your files for ready reference you can quickly specify the correct Darnell Caster or Wheel, thus meeting floor, load-weight and other conditions peculiar to your requirements. Ask for it today.

Free Manual

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DOWNEY (LOS ANGELES COUNTY) CALIFORNIA
60 WALKER STREET, NEW YORK 13, NEW YORK
36 NORTH CLINTON STREET, CHICAGO 6, ILLINOIS

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How much do you weigh?

Not you, but your products! Do you weigh in receiving, at production stages, etc. to protect your operation against overcharges, losses, miscalculations? HYDROSCALE, the hydraulic crane scale, makes it practical to check whenever and wherever you should, weighs on the spot, eliminates weighing stations and man power and equipment tie-ups.

36 MODELS, 500 to 200,000 LBS.

HYDROSCALE

reduces the effort and expense associated with routine weighing jobs

HYDROWAY SCALES, INC.
20614 W. 8 Mile Rd., P.O. Box 4754, Detroit 19, Mich.

For more details circle NED-726 G3 on enclosed inquiry slip

New Literature & Catalogs

Stainless & Nickel Alloy Tubing

J. Bishop & Co. Platinum Works, Stainless Steel Products Div.—Cold drawn stainless steel tubing, nickel and nickel alloy tubing and small tubular specialties receive descriptive treatment with full tabulated data on sizes, specifications, physical properties, workability and general features in 12-page brochure. Stainless types from 0.008 to 1-in. OD are featured.

For more details circle NED-727 G3 on enclosed inquiry slip

Oil & Coolant Filters

Marvel Engineering Co.—Incorporated in 12-page catalog 106 is latest information on Synclinal filters for hydraulic oils, coolants and lubricants and the improvements made in them. Shown are cutaway drawings, parts lists, dimensional charts, engineering data, typical installations, mesh sizes and flow and pressure drop tables.

For more details circle NED-728 G3 on enclosed inquiry slip

Vibration Absorbing Machinery Mounts

Glass Fibers Inc.—Data on physical and chemical properties of Vibraglass, a compressible and resilient board material made from glass fiber and used as shock and vibration absorbing machinery pads are featured in 8-page illustrated brochure. Performance charts and graphs are included on material which has immediate recovery, wide temperature range, long operating life and high strength-weight ratio.

For more details circle NED-729 G3 on enclosed inquiry slip

Rotary Files, High Speed Cutters

R. G. Haskins Co.—Completely cataloging the Haskins line of rotary files, high speed steel ground cutters and carbide tools, 10-page bulletin 57 makes possible easy selection of the right file, cutter, end mill or grinding burr for use with flexible shaft machines, portable tools and precision high speed machine tools. Recommended operating speed chart, dimensions and photos complete the booklet.

For more details circle NED-730 G3 on enclosed inquiry slip

Lightweight Handling Trucks

Tobey Mfg. Corp.—Complete line of lightweight materials handling equipment is covered in company catalog. Trucks are constructed entirely of aluminum and weight one-third to one-fourth as much as conventional wood or steel trucks. One 2000-lb capacity platform truck weighs only 57 lb. A-frames, tote boxes, work tables and stack racks are described as well.

For more details circle NED-731 G3 on enclosed inquiry slip

Clamps of all Types

Adjustable Clamp Co.—The complete Jorgensen and Pony line of clamps and hand screws, including the well established items as well as new designs, are described in 28-page catalog 18. In addition to ordinary catalog details, the well illustrated booklet provides many how-to-do-it suggestions. Six-page supplementary catalog L-18 lists handscrews, bar clamps, clamp fixtures, C-clamps, press screws and other types of clamps.

For more details circle NED-732 G3 on enclosed inquiry slip

Pneumatic Tools

Mall Tool Co.—Grinders, drills, screwdrivers, polishers, sanders, circular and chain saws, socket wrenches, and balance reels are among line of pneumatic tools described and illustrated in 28-page catalog 70. Tools feature smooth, quiet performance and light weight with elimination of electric motors. Speeds on grinders range up to 30,000 rpm.

For more details circle NED-733 G3 on enclosed inquiry slip

Zeolite Water Softening

Graver Water Conditioning Co.—Difference between sodium and hydrogen cycle of Zeolite water softening is explained in 12-page illustrated bulletin WC-108. Distinction is shown graphically. Much information in table form and types of softener controls and types of Zeolite are covered.

For more details circle NED-734 G3 on enclosed inquiry slip

Continuous Weighing Scales

Sintering Machinery Corp., Transportometer Div.—Line of continuous automatic weighing scales for precise control of production input and output of various products in transit is described in 8-page illustrated bulletin 301. Units are installed on new or existing belt conveyors.

For more details circle NED-735 G3 on enclosed inquiry slip

MAINTENANCE COSTS TOO HIGH ON THESE ITEMS

• PUMPS • AIR TOOLS
• REDUCING VALVES • STEAM TRAPS
• TEMPERATURE REGULATORS

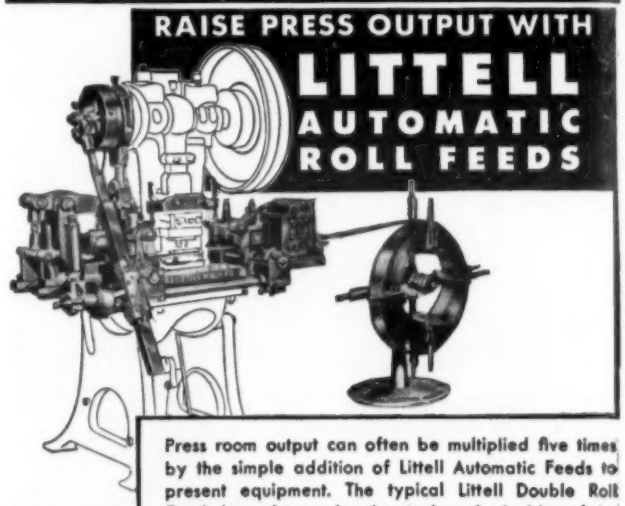
THEN USE ANDERSON Strainers

• One way to save your plants hundreds of dollars and yourself a lot of headaches is to use low-cost Anderson Strainers ahead of pipeline equipment. Easily installed, they prevent maintenance and downtime by intercepting all dirt and solid particles. Long-lasting stainless steel mesh screen furnished as standard equipment. Mail coupon for folder and prices today.

THE V. D. ANDERSON CO. 1958 W. 96th St., Cleveland 2, Ohio

For more details circle NED-736 G3 on enclosed inquiry slip

RAISE PRESS OUTPUT WITH LITTELL AUTOMATIC ROLL FEEDS



Press room output can often be multiplied five times by the simple addition of Littell Automatic Feeds to present equipment. The typical Littell Double Roll Feed shown here grips the stock on both sides of the die to assure maximum traction and feeding power. Stock is easier to start and finish in progressive die work. No hand feeding at either end of the stock. Rack and pinion drive provides the smoothness and the gradual acceleration and deceleration of feed rolls for a truly accurate feed. Standard Littell Automatic Feeds serve all types and sizes of presses, all standard widths and thicknesses of stock.

Installed on old or new equipment

Write for catalog

F. J. LITTELL MACHINE CO.
ROLL FEEDS • DIAL FEEDS
STRAIGHTENING MACHINES
REELS • AIR BLAST VALVES
District Offices: Detroit, Cleveland
Speed with Safety
4169 N. RAVENSWOOD AVE., CHICAGO 13, ILL.

WHEN YOU BUY FROM LITTELL . . . YOU PURCHASE A PACKAGE OF SATISFACTION

For more details circle NED-737 G3 on enclosed inquiry slip

NEW BASIC PRICE BOOK . . . Greatly simplifies ordering and pricing industrial grinding wheels

Source: THE CARBORUNDUM COMPANY
Niagara Falls, New York

CARBORUNDUM has taken the mystery out of buying industrial grinding wheels...by adopting the first really simplified basic price system in the history of the industry. Now you can determine prices, ordering quantities and discounts for a given wheel, almost without exception, by checking a single page of CARBORUNDUM's "New Simplified Basic Prices of Grinding Wheels for Industry."

The extent of the simplification is indicated by the fact that the information requiring 114 pages—covering list prices, discounts, etc.—has been reduced to only 32 pages. You can now order your grinding wheels from CARBORUNDUM with a speed and accuracy hitherto impossible.

You no longer have to refer to several pages to determine prices and discounts, nor follow complicated rules, nor apply chain discounts, nor worry about decimal multipliers. Even special price additions covering various shapes have been eliminated. Basic prices are shown for all regular grinding wheels—straight wheels *and* special wheels such as dishes, saucers, flaring cups, special faces, cones, plugs and many others. Practically all the wheels you use can be priced with a single discount... thus further simplifying your paper work and minimizing errors.

Coincidental with the adoption of this basic pricing system some price adjustments have been made. Prices of certain lines of wheels have been reduced, others are slightly higher.

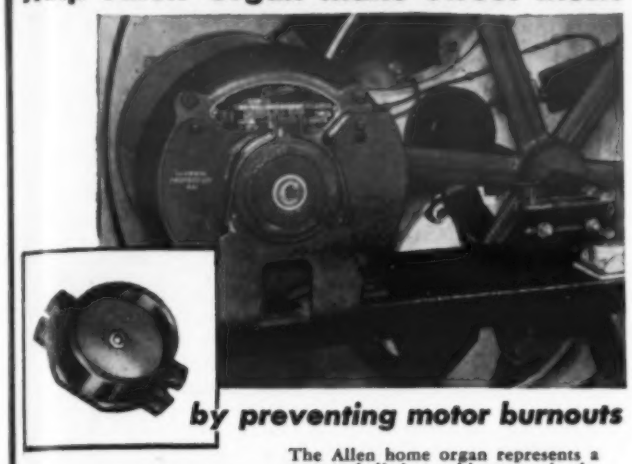
Call your CARBORUNDUM distributor or salesman today for your copy of this new price book—let him show you how it saves you time and money. Or, if you prefer, use the inquiry form and we will mail it to you promptly.

"Carborundum" is a registered trademark of The Carborundum Company, Niagara Falls, New York

For more details circle NED-738 G3 on enclosed inquiry slip

KLIXON PROTECTORS

Help Allen Organ make sweet music



by preventing motor burnouts

The Allen home organ represents a new and distinct achievement in the industry. It will produce directly from the keyboard true bell tones such as Chime, Glockenspiel, Music Box as well as Marimba tones, Harp tones, etc., through the regular organ mechanism.

To keep the motor operating in the "Gyrophonic" speaker mechanism Allen Organ Company uses motors with built-in *Klixon Protectors.*

Here's what Mr. Jerome Markowitz, president, has to say about Klixon Protectors:

"We insist that the motor which is included in the "Gyrophonic" speaker mechanism of our electronic organ be equipped with Klixon overheat protectors. This not only offers motor protection, but also prevents disintegration of the morale of a customer whose instrument 'burns out.'"

You, too, can provide your dealers and consumers with motor burnout protection by requesting and specifying that your motor manufacturer supplies you with motors that have Klixon protectors built in. The additional cost is exceptionally low, while the benefits are extremely high.

SPENCER THERMOSTAT
Division of Metals & Controls Corporation
1907 Forest St., Attleboro, Mass.

KLIXON

For more details circle NED-739 G3 on enclosed inquiry slip

Modern way to save money . . .
Farquhar **medium duty PACKAGE CONVEYOR**

Cuts COSTS
Boosts PROFITS

IF you're looking for an easier, faster, cheaper way to move bags, bales, boxes, cartons and bundles up to 75 pounds, get this Farquhar Model 436 Package Conveyor on the job and watch your handling costs hit rock bottom!

The Farquhar Model 436 is especially designed for all types of portable or semipermanent materials handling installations. Heavy, two-ply rubber covered belt is 12" wide, carries units up to 75 pounds at standard speed of 78 feet per minute. Belt is supplied with or without cleats. Standard center support provides great stability, may be attached to floor or hung from ceiling. Minimum length 14 ft., maximum 32 ft.

OLIVER *Farquhar* CONVEYORS

FREE! "Owners Report"— a booklet of case histories describing money-saving Farquhar conveyor installations. Write: THE OLIVER CORPORATION, A. B. FARQUHAR DIVISION Conveyor Dept. U-04 York, Pa.

POWER-BELT & GRAVITY CONVEYORS

For more details circle NED-740 G3 on enclosed inquiry slip

SKINNER
Solenoid Valves
for air & hydraulic cylinders
fluid shut-off
diaphragm operated equipment
coolant control

M2

BRONZE BODY

M3

"M" SERIES pilot-operated Skinner Valves have extremely fast action, and large capacity on air, inert gas and liquid applications. All internal metal parts are stainless steel or brass. Soft seals prevent leakage — operate in any position — rubber coated, nylon fabric diaphragm for long life — port size ½" or ⅜", orifice ⅜" — power consumption, 10 watts — continuous duty.

M2 is two-way, normally closed, 5 to 150 p.s.i., weight 3 lbs. M3 is three-way, normally closed, normally open, or directional flow, 20 to 150 p.s.i., weight 3¾ lbs.

Write for Bulletins No. 493 & 494

Skinner **ELECTRIC VALVE DIV.**
THE SKINNER CHUCK COMPANY
112 Edgewood Avenue, New Britain, Connecticut

For more details circle NED-741 G3 on enclosed inquiry slip

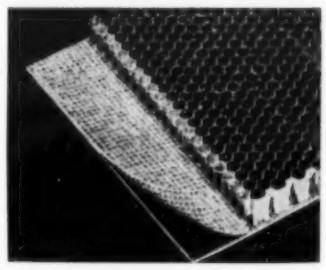
New Processes & Materials

ZINC CHROMATE PRIMER
in aerosol spray dispenser

Priming as it protects metal surfaces, this zinc chromate primer provides a good base for finish paint coats. On surfaces where rusting has started, the primer will isolate the rust spots and prevent their spread. Product is offered in an aerosol spray can and meets Army-Navy JAN-P-735 specifications. It is available in standard zinc chromate yellow. Made by **Seymour of Sycamore, Inc.,** Dept. NED, Sycamore, Ill.

For more details circle NED-742 G3 on enclosed inquiry slip

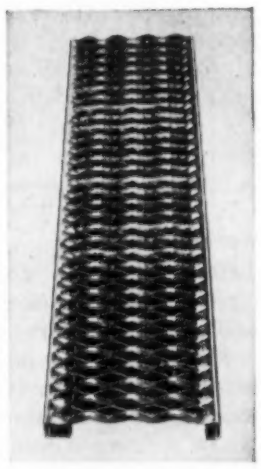
METAL BONDING TAPE
offered in three coating weights



Originally designed for joining aluminum surfaces and skins to honeycomb core in aircraft construction, Trevabond FM-47 glass fabric supported metal bonding adhesive can be used to join such other surfaces as ferrous and nonferrous alloys, plastics, glass, ceramics, wood, leather and textiles. It is a film of translucent yellow resin reinforced by an open weave glass cloth and is offered in three coating weights. Mechanical properties of heavy grade bonded joints exceed U.S. Air Force Specification for metal-to-metal structural adhesive. Bonding procedure consists of application of thin adhesive coat to each surface; attaching tape film to either of the surfaces and force drying; and assembling surface to be joined and press bonding at pressures of 15 to 500 psi. Developed by **Coast Mfg. & Supply Co.,** P. O. Box 71D, Livermore, Calif.

For more details circle NED-743 G3 on enclosed inquiry slip

SAFETY GRATING
4¾ and 19-in. widths added



Two new widths in the Grip-Strut safety grating line originally announced in (NED, Oct. '51) are now available. The two-diamond piece, 4¾ in. wide, was developed for ship ladders, engine room steps, safety step ladders and stair treads. Eight-diamond, 19-in. widths are designed for work platforms, catwalks, landings, flooring and miscellaneous use. Intermediate widths are 7, 9½ and 11¾ in. Made by **Globe Co.,** Dept. C, 4000 S. Princeton Ave., Chicago 9, Ill.

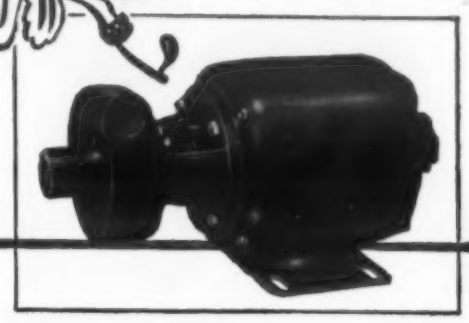
For more details circle NED-744 G3 on enclosed inquiry slip

STEEL STRAP WEBBING
used to support drop ceiling

Economical method of lowering a high ceiling to reduce the load on space heating equipment makes use of Apex steel strapping, installed in such a manner as to form a web on the under side of girders suspended from the original ceiling. Strapping is fastened by driving a steel pin into wall plates at each end of the room by powder-actuated tools, with intermediate fastening to girders if required. It is then tensioned to present a tight span for installation from scaffolding of the blanket-type insulation material as the ceiling. Ceiling requires no finishing and acts as a vapor barrier. Insulation made by Gustin-Bacon Mfg. Co., powder-actuated tool by Powder Power Tool Corp. and strapping by **Signode Steel Strapping Co.,** 2632 N. Western Ave., Chicago 47, Ill.

For more details circle NED-745 G3 on enclosed inquiry slip

LOW COST OPERATION



CENTRIFUGAL PUMPS

When centrifugal pumps are proportioned in size to their duties, costs are kept to a minimum. Eastern Industrial pumps do an efficient job. Weight, space, power, and costs are reduced. Heavy-duty application with trouble-free performance is yours with minimum operating costs.

Write for Eastern Centrifugal Pump Catalog 100-B

Eastern INDUSTRIES, INC.
296 Elm St., New Haven, Conn.

For more details circle NED-746 G3 on enclosed inquiry slip

FREE
10 DAY TRIAL
OFFER

MODEL 52

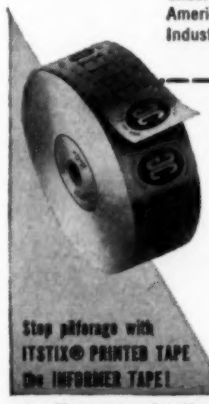
streamline your packaging operations with a

NATIONAL TAY-PER®

- **SAVE TIME** — simplified operation speeds packaging
- **SAVE LABOR** — automatic moistening control* reduces rub down time
- **SAVE MONEY** — automatic dispenser delivers any predetermined lengths, eliminates waste
- **AVOID DAMAGE CLAIMS** — positive moistening control "welds" tape to cartons for double protection

*endorsed by the Association of American Railroads and the Gummed Industries Association, Inc.

NASHUA



NASHUA PACKAGE SEALING
Div. of Nashua Corporation, Nashua, N. H.
World's largest manufacturer of tape moistening machines and gummed tape.

Please send me a National Tay-Per for a 10 day FREE trial.

Name _____
Company _____
Address _____
Dept. 24

For more details circle NED-747 G3 on enclosed inquiry slip

HARDINGE
ELMIRA, N.Y.

COLLETS and FEED FINGERS
PERFORMANCE... ECONOMY

Collets and Feed Fingers for all makes of Automatics, Chucking Machines and Turret Lathes through a single source of supply. Get the benefit of more than 60 years of manufacturing experience—specify HARDINGE Collets and Feed Fingers.

HARDINGE BROTHERS, INC., ELMIRA, N. Y.

For more details circle NED-748 G3 on enclosed inquiry slip

Lick those leaks—
with less re-packing

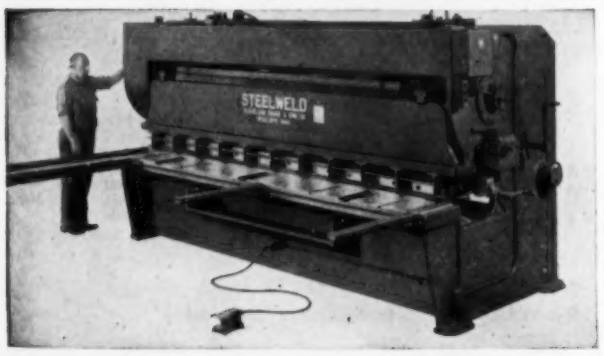
Quaker
SHEET PACKING

Put a stop to production stoppers! Re-pack with Quaker—the *super-tough* sheet packing that's *long-life engineered!* It defies high pressures and other "tortures" from steam, gas, vapors or acids. It expands where it should, stays pliable, resists vibration—lasts for incredibly long periods. Whatever type of packing your job requires—Quaker has it, for low-cost, trouble-free service.

Write for name of nearest distributor

QUAKER RUBBER CORPORATION
DIVISION OF H. K. PORTER COMPANY, INC.
OF PITTSBURGH
Dept. D, Philadelphia 24, Pa.
Branches in Principal Cities

For more details circle NED-749 G3 on enclosed inquiry slip



PIVOTED-BLADE SHEAR
A Revolutionary Design!

UPPER KNIFE TRAVELS IN CIRCULAR PATH

Radically different from all other metal-cutting shears. Overcomes handicaps of ordinary guillotine-type shears. No slides or guides to wear. Many other important features. All sizes for metal to 1-1/4" thick or 18'-0" long.

STEELWELD Pivoted-Blade SHEARS CATALOG No 2011

Send for free Catalog No. 2011

THE CLEVELAND CRANE & ENGINEERING CO.
6626 East 282nd St., Wickliffe, O

STEELWELD SHEARS

For more details circle NED-750 G3 on enclosed inquiry slip

New Literature & Catalogs

Automatic Continuous Conveyors

Honan-Crane Corp.—All types of Houdaille conveyors for automatic, continuous removal of metal-working chips, scale, sludge, cracklings, powders and grain are described in plastic-bound 20-page catalog 803. It features standard chains, flights, casings and accessories and contains capacity charts, circuit layout suggestions, installation and operating instructions.

For more details circle NED-751 G3 on enclosed inquiry slip

Spiral Tubing

Continental-Diamond Fibre Co.—Various applications and characteristics of spiral fiber tubing are found in 8-page technical folder ST-53. It is described and illustrated in the bulletin which lists its several available forms and shapes.

For more details circle NED-752 G3 on enclosed inquiry slip

LP-Gas Systems

Pressed Steel Tank Co.—Dimensions, specifications and other data on five standard sizes of Hackney liquid petroleum gas systems of 499, 640, 855, 955 and 1135-gal capacities are given in 4-page bulletin. Systems have filling valve and other fittings on shoulder tank.

For more details circle NED-753 G3 on enclosed inquiry slip

Ready-to-Stick Tapes

Mark'Andy Ready-To-Stick Tape Co.—Ready-to-stick tapes for marking, labeling and advertising, among other uses, are described in 4-page folder. Colors, widths, cores and types of printing available are detailed and prices are given.

For more details circle NED-754 G3 on enclosed inquiry slip

Photocopying Machine

Remington Rand Inc.—Photocopies of any office record can be made by one machine in less than 1 minute by the Transcopy Duplex machine, described and illustrated in 4-page bulletin P344. Compact unit requires no darkroom for developing, washing, fixing or drying.

For more details circle NED-755 G3 on enclosed inquiry slip

Small Seamless Tubing

Precision Tube Co.—First of two illustrated bulletins (4 pages) covers small seamless tubing available in diameters from ½ to 0.010-in. OD, round, rectangular, oval or square shapes in various alloys, tempers, tolerances and finishes. Other bulletin of 8 pages deals with seamless aluminum alloy pointer tubing and all kinds of small preformed metal tubing for electrical applications, including metal-shielded wire.

For more details circle NED-756 G3 on enclosed inquiry slip

Marking Devices

Newark Stamp & Die Works, Inc.—Diversified types of marking equipment, including coining, embossing, press stamping and roller dies, high speed profiling, machine engraving, steel stamps, reverse letters and figures, type holders and others, are described and illustrated in 20-page catalog No. 53.

For more details circle NED-757 G3 on enclosed inquiry slip

Air Vibrators

Cleveland Vibrator Co.—Application of line of air vibrators in concrete, construction, building and other industries is subject of 6-page illustrated folder. Units can be used on bins and hoppers, trucks and railroad cars, and in production of various concrete products.

For more details circle NED-758 G3 on enclosed inquiry slip

Terminal Blocks & Switches

Kulka Electric Mfg. Co.—Wide variety of types of standard and special Navy terminal blocks, aircraft and electronic switches and terminal spreaders are specified in illustrated catalog No. 14 of 20 pages. Much general data are given, along with electrical properties and dimensional drawings.

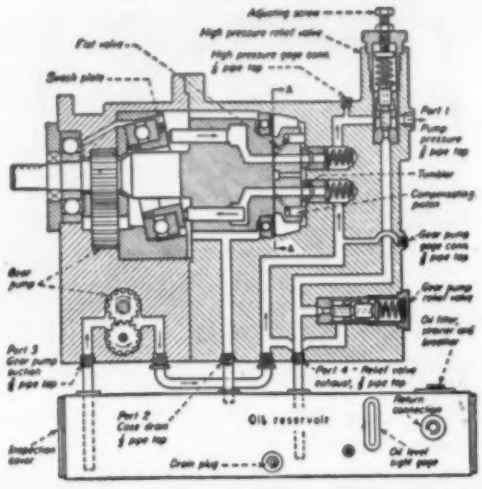
For more details circle NED-759 G3 on enclosed inquiry slip

Reinforced Plastics

Dynakon Corp.—Effect of design procedures on properties and ease of fabrication of glass fiber reinforced plastics is shown in 4-pages of material reprinted from "Handbook of Product Design." Recommended direction of loading in relation to laminations and how to handle reinforcements, attachments, undercuts and hinged connections are among subjects.

For more details circle NED-760 G3 on enclosed inquiry slip

HEAVY DUTY HYDRAULIC POWER PUMPS
Pressures to 3000 & 5000 psi



The Oilgear Company announces three new "Fluid Power" heavy-duty constant delivery axial piston pumps. Similar components have been tested and proven in more than 100,000 installations without a single failure on record. Features of these fluid power generators are: patented balanced small flat valves with controlled oil film between working surfaces; patented small one piece rolling pistons; patented quiet reverse flow relief valves; 100% supercharge that minimizes oil compression, prevents air entry and assures quieter operation. These units in pressures up to 3000 and 5000 psi are especially suited to heavy duty pushing, pulling, lifting, lowering and maintaining high static loads on large clamping rams; for use in the iron, steel, metal working, plastic, automotive, rubber, printing, lumber and textile industries. For illustrated descriptive and application data, write for Bulletin 46601. THE OILGEAR COMPANY, Dept. A, 1582 West Pierce Street, Milwaukee 4, Wisconsin. Advt.

For more details circle NED-761 G3 on enclosed inquiry slip

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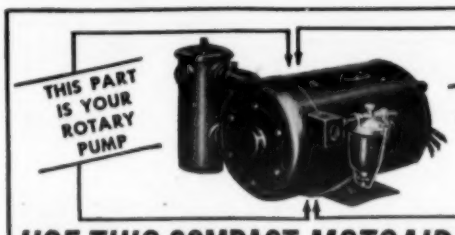
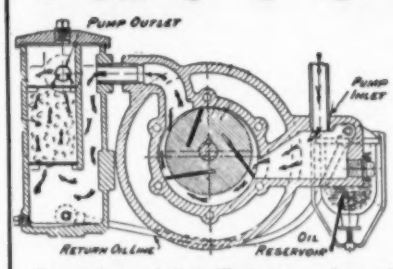


USE THIS COMPACT MOTOAIR PUMP FOR
VACUUM
AVAILABLE IN SEVERAL SIZES



No other pump, so compact, provides such dependable vacuum in so little space. Less parts to wear because

NO BELTS
NO GEARS

VISIBLE LUBRICATION

The unique design illustrates points which appeal to machine designers. Used for years on packaging and graphic arts equipment, web-guiding, etc.

Write for Catalog—

NEW JERSEY MACHINE Corporation

FACTORY SALES AND SERVICE BRANCHES
CHICAGO CINCINNATI LOS ANGELES

1550 WILLOW AVENUE, HOBOKEN, N. J.

For more details circle NED-762 G3 on enclosed inquiry slip

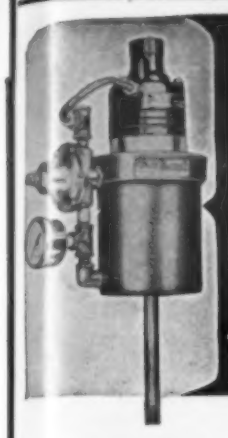
These Bond Casters are Your Best Buys for TROUBLE-FREE SERVICE

36-A Series—Double Ball Race Swivel Caster
1-A Series—Stationary Caster
41-A Series—Structural Steel Stationary Caster
40-AH-VG Series—V-Grooved Wheel Structural Steel Heavy Duty Swivel Caster
3-A Series—Single Ball Race Swivel Caster
Dual Wheel Swivel Caster

Ask your industrial distributor . . .
he knows that for dependability, economy and trouble-free materials handling you just can't beat Bond Casters. Your distributor has the right Bond Casters for your jobs. Get your copy of Bond Catalog K-38 from him, or write direct.

BOND FOUNDRY & MACHINE CO.
Manheim, Pennsylvania

For more details circle NED-763 G3 on enclosed inquiry slip



Up to 5 times faster response with NEW CONOFLOW PNEUMATIC CYLINDER MOTORS for THROTTLING CONTROL

The New B-50 Series of pneumatic cylinders for throttling control service operate on air pressures up to 100 psig and are capable of repositioning accuracies of 1/500 part of total stem travel. Simplified one-piece piston construction features graphite impregnated "O" ring seals and a piston positioner integrally mounted in the head plate. Extra sensitive, speedy and stable—because of minimum friction and precisioned aluminum design.

Many applications include positioning electrical components, variable speed drives, rubber pinch valves, etc. Available in 4", 6" and 8" diameters with 3" and 4" stem travels. Furnished complete with cushion-loading regulator and gauge, fully piped, ready for installation.

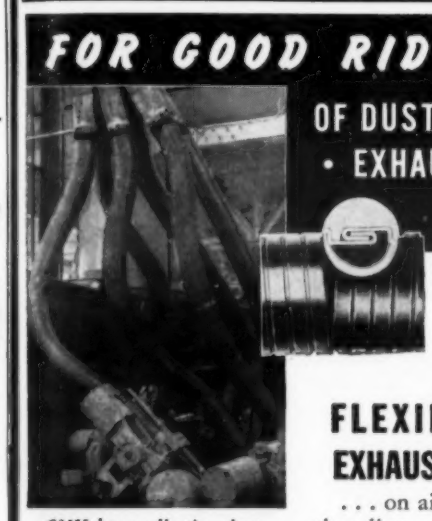
Write for bulletin B-50-PE.

CONOFLOW CORPORATION
2100 Arch St., Phila. 3, Pa.

Cono Controls

For more details circle NED-764 G3 on enclosed inquiry slip

FOR GOOD RIDDANCE OF DUST PARTICLES • EXHAUST GASES • FUMES



CMH hose collecting dust particles on a buffer job.

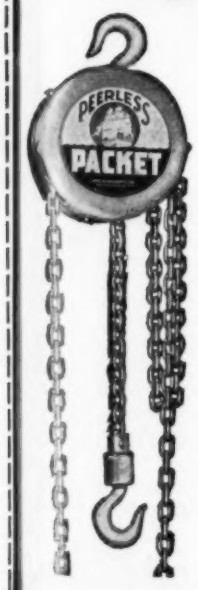
INSTALL CMH FLEXIBLE METAL EXHAUST TUBING...

. . . on air blowers, in suction lines or dust collecting systems. Absorbs vibration . . . corrects for misalignment . . . can be moved easily. CMH Flexible Metal Exhaust Tubing is made of galvanized steel, brass, aluminum, etc. Standard sizes from ½" to 12" I.D. Couplings to suit needs. Write for complete information.

CHICAGO METAL HOSE
DIV. FLEXONICS CORPORATION
1343 S. Third Avenue, Maywood, Illinois
Manufacturers of flexible metal hose and conduit, expansion joints, metallic bellows and assemblies of these components.
In Canada: Flexonics Corporation of Canada, Ltd., Brampton, Ontario

For more details circle NED-765 G3 on enclosed inquiry slip

New 1-ton Aluminum PACKET HAND CHAIN HOIST weighs only 32 pounds



High tensile aluminum alloy parts make it 21 lbs. lighter than 1-ton all-steel Packet

Though much lighter in weight, the aluminum Packet retains the drop-forged, heat treated steel hooks; the electrically welded, oval link, heat treated, steel load chain; and the mounting of rotating parts on prelubricated, shielded ball bearings of the all-steel hoist.

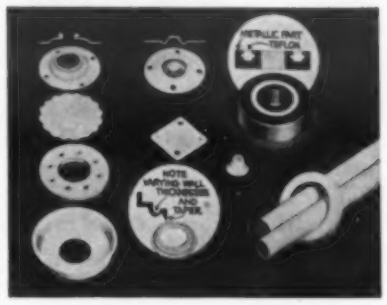
To obtain more information on these lightweight, spur-geared hoists that are easily carried from place to place, look in your local classified telephone directory under "Hoists" for your nearest Harrington distributor. Or write us for Bulletin P-5.

HARRINGTON PEERLESS HOISTS
THE HARRINGTON CO., 1650 W. Callowhill St., Phila. 30, Pa.
Makers of Hoists Since 1876

For more details circle NED-766 G3 on enclosed inquiry slip

New Processes & Materials

TEFLON MOLDING
difficult-to-mold parts to order



Recent developments in the technique of molding Teflon into a wide variety of parts have made it possible to give them difficult undercuts, varying wall thicknesses and other unusual physical specifications. Teflon is unaffected by all acids and alkalies except molten alkali metals and fluorine at elevated temperatures and can be used at temperatures between −320 and 500° F. It has a low coefficient of friction, is nonadhesive and possesses good dielectric and insulating properties. Photo shows some of parts molded from Teflon, including a metallic part with a Teflon insert of unusual shape. Molding by **Sparta Heat Treat Co.**, Plastics Div., Dept. N, Dover Rd., East Sparta, O.

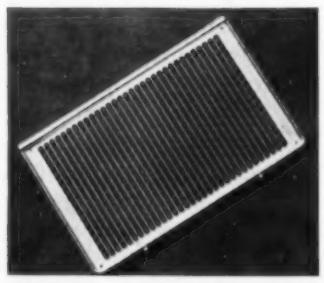
For more details circle NED-767 G3 on enclosed inquiry slip

TAPE CARTON SEAL
opens with pull on center string

Corrugated boxes are easily opened if sealed with Jet tape. This material dispenses in the normal fashion, and has a string imbedded the length of its centerline. Packages are opened simply by pulling the string. In effect, this cuts the tape sealer in two. Made by **Gummed Products Co.**, 1953 S. Union St., Troy, O.

For more details circle NED-768 G3 on enclosed inquiry slip

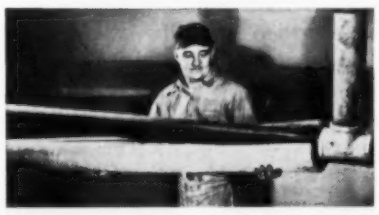
ALUMINUM SHEET ALLOY
resistance to corrosion is high



Good corrosion resistance is one of several advantages of K155 magnesium-type aluminum sheet alloy developed for general metal-working requirements. Used for stamping of louvered refrigerator shelves, light reflectors, trays and utensils, alloy has same general mechanical properties of earlier manganese-type alloy 3S, forms as easily, but stands up better in service. It is suited for taking anodized finishes and shows little tendency toward structural streaking. Color after processing is light and free of any yellow or brown tinge. K155 is available in plate, flat sheet, coil and circle form in all tempers for simple, moderate or severe forming. Made by **Kaiser Aluminum & Chemical Sales, Inc.**, 1924-N Broadway, Oakland 12, Calif.

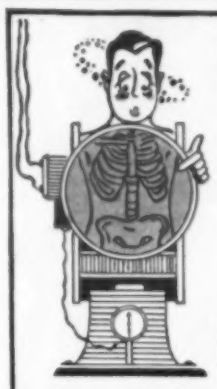
For more details circle NED-769 G3 on enclosed inquiry slip

PIPE INSULATION
one-piece glass fiber type



Molded in one piece from fine glass fiber, GB ultrafine pipe insulation possesses very high thermal efficiency and is easy to apply. It is furnished for a wide range of pipe sizes in thicknesses of from ½ to 1½-in., and in 6-ft lengths, and is suitable for pipe heats to 350° F, as "second layer" insulation in high temperature applications and for low temperature applications of all types. The material can be cut with a knife, painted, and is resilient, lightweight, nonbreakable and insoluble in water. It will not rot, decay, or absorb moisture, is inert, and resists most acids and alkalis. In application, the material is spread at its seam and snapped back over the pipe, then seam fastened by any standard means. Made by **Gustin-Bacon Mfg. Co.**, Dept. H, 210 W. Tenth St., Kansas City, Mo.

For more details circle NED-770 G3 on enclosed inquiry slip



"See all" with... BOWSER FLOW SIGHTS

Bowser Flow Sights let you "see all"—enable you to keep a watchful eye on your liquid handling operation. It pays to know the quality or the approximate quantity that's going through your lines.

Available in either single or double window types, in gravity or pressure models with or without electric control switch. Bowser Flow Sights are made in various metals for a variety of liquids.

Fig. 811 Flow Indicator — Fig. 54A Flow Sight — Fig. 816 Teleflo Indicator

BOWSER, INC.
1381 Creighton Ave., Fort Wayne 2, Indiana

Liquid Handling Specialists Since 1885

For more details circle NED-771 G3 on enclosed inquiry slip

Here's free information on modern design speed reducers

On every page this bulletin offers practical and helpful data about the line of Westinghouse Speed Reducers. It describes and illustrates special construction features, gives reduction ratio charts and covers the precision manufacturing methods employed by Westinghouse. Included are outline drawings giving principal speed reducer dimensions.

There's also a section showing typical speed reduction problems and how Westinghouse Speed Reducers provide accurate solutions.

You'll find this eight-page descriptive bulletin most valuable when selecting and applying speed reducers. Ask your local Westinghouse Representative for a copy of DB 3700-SR, or write Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30, Pa.

J-07337

YOU CAN BE SURE...IF IT'S Westinghouse

For more details circle NED-772 G3 on enclosed inquiry slip

NEW MODEL ALL-METAL *ELECTRIC* SPRAY GUN

No Compressor Needed!

No Cartridges—Just Plug in & Use

ENTIRE UNIT UL APPROVED

Here is the trigger-action, lightweight, yet built for heavy duty, all-metal electric Spray Gun ideal for a wide-range of industrial uses. Suitable for all types of work including painting, refinishing, touch-up work, cover-up coats, rustproofing, stenciling, marking, etc. Delivers over 90 lbs. of pressure at 7,200 strokes per minute. No compressor is needed. Just plug into AC outlet and use. This Spray Gun is self-contained and has sturdy vibrator motor in the handle. The entire unit, every part, is fully UL approved, including the 8-ft. S. J. Neoprene Cord & Plug Set. Also included: 25-oz, polished aluminum container, and 5 extra nozzle discs. This model Spray Gun is available only from us. Only $17.95 postpaid.

10-Day Money-Back Guarantee

WALDORF SALES CO.

Dept. AG-2607, 363 Central Park Ave., Yonkers, N. Y.

For more details circle NED-773 G3 on enclosed inquiry slip

Do you have any problems due to wear, abrasion or corrosion of metal parts?

Electrolizing

CAN PROVIDE THE SOLUTION!

Hundreds of manufacturers in every field from home appliances to military equipment . . . wherever the resistance of metal to wear, abrasion or corrosion is important . . . are specifying Electrolizing.

A CASE IN POINT:

A major pump manufacturer was asked to produce a booster pump to be used on certain army aircraft. The specification called for a 15-hour dry run without galling. After every known surface treatment failed within 10 hours, it was suggested that they try Electrolizing. Electrolized shafts ran 55 hours with no signs of galling. After repetitive model and field tests Electrolizing was specified for the job.

Whether your problem is abrasion, wear or corrosion, ELECTROLIZING can provide the solution. Write for our new booklet, today.

THE *Electrolizing* CORPORATION

1505 EAST END AVENUE, CHICAGO HEIGHTS, ILLINOIS

Plants:
Providence 1, R.I. 148 W. River St. — Cleveland 10, Ohio 1650 Collamer Rd. — Chicago Heights, Illinois 1505 East End Ave.

For more details circle NED-774 G3 on enclosed inquiry slip

New Literature & Catalogs

Plating Anodes & Chemicals

Hanson-Van Winkle-Munning Co.—Anodes, anode accessories, plating processes and plating chemicals are described and illustrated in 16-page bulletin AC-107. Specifications and applications for 9 styles of anode bags, 3 diaphragm types and 12 anode types are given, along with descriptions of 16 different plating processes. Also covered are electroplating salts, brighteners, purification materials and oxidizing liquids, and various technical data.

For more details circle NED-775 G3 on enclosed inquiry slip

Blast Cleaning Hose Machines

Pangborn Corp.—Despite advances in automatic equipment, there are many jobs that require use of hand-operated nozzle blast cleaning equipment. The latter is subject of 28-page illustrated bulletin 100A. Two fundamental methods of applying abrasive are described, as well as use of both wet and soft abrasives. Selection of proper machine and nozzle is described.

For more details circle NED-776 G3 on enclosed inquiry slip

Magnetic Iron Powders

Magnetic Powders, Inc.—Technical data, including photomicrographs, frequency vs. Q charts, permeability rating graphs, etc., on applications of annealed carbonyl and hydrogen reduced iron powders and magnetites is found in 8-page illustrated catalog 354.

For more details circle NED-777 G3 on enclosed inquiry slip

Rolling Chain Drives

Browning Mfg. Co.—Line of roller chain drives, featuring sprockets with split taper compression bushings, is described in 20-page illustrated pocket-size booklet. Specs and prices for each component are given.

For more details circle NED-778 G3 on enclosed inquiry slip

Switch Track Material

L. B. Foster Co.—"Switch Materials" is a 44-page illustrated catalog designated as No. 575A that contains specifications and descriptions of crossing, frogs, gage plates, guards, rails, guard rail clamps, heel blocks, rail braces, switch lugs, switch rods and bars, switches and a multitude of other track materials and supplies.

For more details circle NED-779 G3 on enclosed inquiry slip

Wire Markers

Western Lithograph Co., Westline Products Div.—In the 8 illustrated pages of bulletin 552 are shown some of the advantages and applications of E-Z Code wire markers, offered in self-adhering form on Speed Tab equipped mounting cards. Cards contain 25 to 36 markers. Prices and other details are given.

For more details circle NED-780 G3 on enclosed inquiry slip

Protective Clothing

Dunn Products—Gloves made of various materials; respirators; fire and acid resistant aprons, pants, jackets, suits and coats; rubber boots and shoes; protective sleeves and leggings; rubber acid containers and other personal protection items are featured in 112-page illustrated catalog 15. Guide to glove selection and fabric swatches are included.

For more details circle NED-781 G3 on enclosed inquiry slip

Hydraulic Equipment for Mobile Uses

Vickers Inc.—Line of oil hydraulic equipment for mobile applications is described and illustrated, and its specifications and engineering data given, in 16-page catalog M-5101. Covered are vane type pumps and motors, valves, power steering pumps and steering boosters, among others.

For more details circle NED-782 G3 on enclosed inquiry slip

Hydraulic Lift Case Studies

Globe Hoist Co.—How hydraulic lifts can solve problems of lifting, loading, positioning and materials handling are featured in 24-page illustrated spiral-bound brochure. Eleven case studies represent diversified Globe Oilift installations in various fields.

For more details circle NED-783 G3 on enclosed inquiry slip

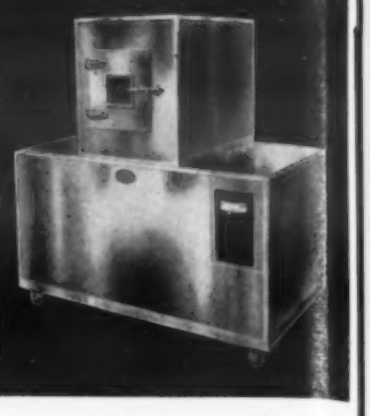
Solving Roofing Problems

Tremco Mfg. Co.—Above is title of 32-page brochure, with photographs, drawings and diagrams which detail various types of roofs, how they are built, factors of deterioration, how roof troubles can be diagnosed and treated. It contains 15 sections.

For more details circle NED-784 G3 on enclosed inquiry slip

WEBBER TRADE MARK REGISTERED

TEST CHAMBER WITH HIGH-TEMPERATURE, LOW-TEMPERATURE AND HUMIDITY



★ This Webber test unit, designed for production and experimental testing, has a temperature range from +250°F. to −100°F. The pull-down to −100°F., is achieved in 45 minutes, and can be cycled from −100°F., to +250°F., in 30 minutes. 95% relative humidity is provided at temperatures between 75°F., and 95°F. Vacuum equipment can be added to simulate high altitudes. The test chamber, provided with a moisture-proof light for illumination, is 4½ cubic feet, 20 inches high, 20 inches wide, 20 inches deep. High and low temperatures are governed by a temperature controller with scale range from −200°F., to +400°F., with a 3 degree control point differential, 1½ degrees plus and minus. The humidity is regulated by a wet and dry bulb controller. Unit size is 60" long, 45" wide, 74" high. Apertures in left side of cabinet provide for electrical cables to energize equipment being tested. Webber offers a complete line of test units for various applications.

Write for more complete information

INDUSTRIAL FREEZER DIVISION
WEBBER MANUFACTURING COMPANY, INC.
(Formerly Webber Appliance Co., Inc.)
2749 MADISON AVENUE · INDIANAPOLIS 3, INDIANA

For more details circle NED-785 G3 on enclosed inquiry slip

PRECISION INTERNAL FORMING TO MEET PRODUCTION DEMANDS

QUICK ADJUSTMENT AND POSITIVE ACTION make the **MAX-WELL-MADE** Model JF recessing tools especially suitable for use in today's high-speed production schedules.

This tool operates on any jig and fixture setup to cut snap ring grooves, "O" ring grooves and oil labyrinths as well as for inaccessible spot facing, external necking, precision undercutting, etc.

Accurate to within ±0.001-inch, Model JF is available in five sizes to pilot into standard bushings from 1" to 2¼ inches.

JF tools can be supplied with either standard Morse or adjustable adapter, quick-change, straight or special shanks.

Write today for catalog. (Model JF)

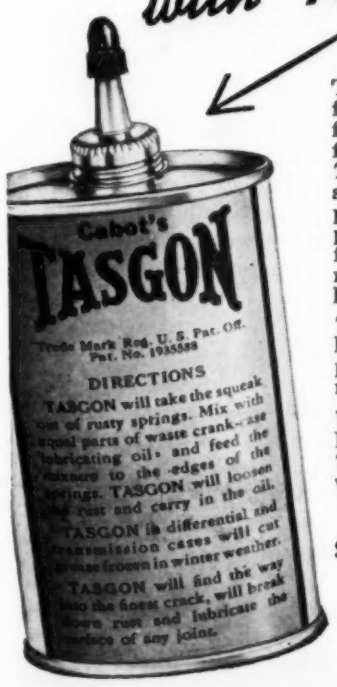
893-MC

THE MAXWELL COMPANY

390 BROADWAY • BEDFORD, OHIO

For more details circle NED-786 G3 on enclosed inquiry slip

Cut repair time with Tasgon



The quickest, most effective way to free rust-frozen nuts, bolts and fittings is with Cabot's *Tasgon*, the original rust solvent. *Tasgon* quickly penetrates to the farthest points, loosens contact surfaces, cuts through gummed up oil and grease, and hardened paint.

Tasgon cuts time and labor . . . saves broken parts . . . keeps maintenance costs down.

WRITE TODAY for FREE *SAMPLE*. Try *Tasgon* once and you'll always keep a supply on hand.

SAMUEL CABOT INC.
732 Oliver Bldg.
Boston 9, Mass.

For more details circle NED-787 G3 on enclosed inquiry slip

Here's your opportunity to see—feel—and test Tufflex—the modern cellulose cushioning fiber! Product designers in many industries are finding Tufflex the key to product improvement. Tufflex combines the virtues of a soft, fleecy material with amazing strength and toughness. It die-cuts with clean, true edges—doesn't shred or pull apart. Tufflex is also efficient as an insulation or as a sound deadener. Send for your FREE Tufflex kit today! Write Wood Conversion Company, Dept. 127-73, First National Bank Building, St. Paul 1, Minnesota.

Keep your eyes on TUFFLEX*

*Reg. U. S. Pat. Off.

Guaranteed by Good Housekeeping

CELLULOSE CUSHION PADDING

For more details circle NED-788 G3 on enclosed inquiry slip

feature for feature...

THIS NEW SQUARE D VOLTAGE TESTER

Tops them ALL!

for further details, write Square D Company, 6060 Rivard Street, Detroit 11, Michigan

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

For more details circle NED-789 G3 on enclosed inquiry slip

WHY USE THESE EthoLoc* CABLE CLIPS?

1. Made of tough, durable Ethyl Cellulose plastic—no danger of shorts or grounds
2. Flexible and easy to apply—no sharp edges
3. Light in weight
4. Low in cost

15% reduction in prices on many popular sizes. We thank our customers for large volume that made price reductions possible.

Write for sample and full information

WECKESSER COMPANY

ALCO MFRS OF ALL NYLON CABLE CLIPS

5251 N. Avondale Ave. • Chicago 30, Ill. •

For more details circle NED-790 G3 on enclosed inquiry slip

New Processes & Materials

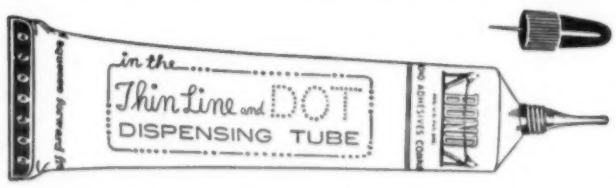
NONSLIP CONVEYOR BELT is topped with cork and neoprene

Light materials can be conveyed up inclines of 25 degrees or more on this belt which features a cork filled neoprene coating. Impervious to oil, this rough surfaced belt is covered with small pieces of cork which grip material being conveyed, preventing back-slide. Belt widths up to 132 in. are obtainable. Made by **Main Belting Co.,** Room 184, 1241 Carpenter St., Philadelphia 47, Pa.

For more details circle NED-791 G3 on enclosed inquiry slip

TUBED CEMENT dispenses in dots or thin lines

A needle-tipped collapsible tube is now being used as dispenser for several grades of Bond cements. The tube's needle tip is about ¼-in. long, closely re-



sembling a 17 gage hypodermic needle, with an outside diameter of about 1/16-in. Very thin lines of glue or tiny dots can be delivered without difficulty. Cement to be packaged in this manner includes grades for such industries as costume jewelery manufacturing, electronic equipment, and electric and mechanical instrument manufacturing. Made by **Bond Adhesives Co.,** 537 Johnson Ave., Brooklyn 37, N. Y.

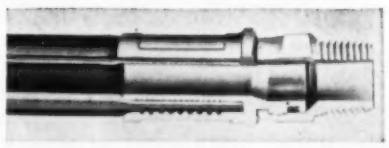
For more details circle NED-792 G3 on enclosed inquiry slip

INSULATING WINDOW has glass-to-glass sealed edges

An all-glass double-glazed insulating window, called TwindoWeld, has edges that are electrically fused to provide a glass-to-glass seal without use of metals or bonding materials. Unit has no edge conductivity and is available in sizes up to 50 x 62 in. It consists of two layers of ⅛-in. thick glass separated by a 3/16-in. air space. Dry air is placed between the panes during manufacture and internal pressure is such that atmospheric pressures encountered in altitudes up to 3000 ft can be withstood. Heat transfer properties are the same as for assembled insulated windows now being manufactured. Made by **Pittsburgh Plate Glass Co.,** Dept. NED, 632 Duquesne Way, Pittsburgh 22, Pa.

For more details circle NED-793 G3 on enclosed inquiry slip

SYNTHETIC HYDRAULIC HOSE handles between 1800 and 2300 psi



Compar tube and synthetic fiber-braid carcase render this hose impervious to hydraulic oils, give it working pressures in the 1800 to 2300 psi range and physical pull strengths of up to 3500 lb. All-synthetic construction and special fittings give the assemblies high fatigue resistance. Tubing is being offered in ¼, ⅜, and ½-in. ID, and is adaptable to hydraulic systems of farm implements, materials handling trucks, road construction machinery and other equipment where optimum fatigue resistance and flexibility must be combined with high burst strengths. Made by **Resistoflex Corp.,** Dept. NED, Belleville 9, N. J.

For more details circle NED-794 G3 on enclosed inquiry slip

FOR YOUR STAINLESS STEEL FASTENERS... IT'S ALLMETAL for quality and delivery

ALLMETAL, Specialists in Stainless, Produce Stainless Products Exclusively

ALLMETAL

the leading source for Stainless Screws, Nuts, Bolts, Washers, Pins, Rivets. Made right, Priced right. "AN" and Standard Types carried in stock. Phillips Recessed Head Screws and Specials available too.

WRITE FOR CATALOG L

MANUFACTURERS SINCE 1929

STAINLESS STEEL FASTENERS

ALLMETAL SCREW PRODUCTS COMPANY, INC.

33 GREENE STREET NEW YORK 13, N. Y.

For more details circle NED-795 G3 on enclosed inquiry slip

This new booklet shows you how Kodak Contour Projectors can simplify your inspection and measurement problems

Just off the press is the most informative booklet on Kodak Contour Projectors we've ever published.

- It shows by example and case history how you can inspect large parts, small parts, long parts, curved parts, complex parts, all sorts of parts on the Kodak Contour Projector.
- It gives details of both the Model 2A for precision micrometry, and the Model 3 for fast, routine gaging.
- It describes the features that make Kodak Contour Projectors adaptable to such a wide variety of work.
- It lists the accessories that extend their versatility.
- It discusses the measuring attachments that provide critical accuracy.

Whether your interest lies in toolroom measurement or production assembly and inspection, Kodak Contour Projectors will do the job quickly, completely, and accurately with little training of operators. For complete details send for your complimentary copy of this new 12-page booklet. Just write:

Special Products Sales Division
EASTMAN KODAK COMPANY, Rochester 4, N. Y.

the KODAK CONTOUR PROJECTOR

A new sound movie, Optical Gaging, shows how to simplify complex inspection problems. We'll tell you how to get it for a showing.

Optical Gaging

Kodak TRADE MARK

For more details circle NED-796 G3 on enclosed inquiry slip

Special cold headed products

. . . nails · rivets · screws . . . made to order

. . . and to your specifications in any metal. Large raw material inventory for your convenience. Send drawing—advise quantity. *Free catalog on request.*

JOHN HASSALL INC.

398 Oakland Street, Brooklyn 22, New York

▲ For more details circle NED-797 G3 on enclosed inquiry slip ▲

You're ahead **3 WAYS** *with*

KEM LUSTRAL® ENAMEL!

Simplify the job . . . do away with need for many special enamels . . . get the benefit of volume production of highest industrial quality materials!

If you use enamels for any purpose, or for any product—wood or metal—KEM LUSTRAL's multi-usefulness may show a way to important savings.

Get the facts about this top-quality, versatile industrial enamel! It's one of a complete line of Sherwin-Williams product finishes especially developed to meet production-line requirements. Check your classified telephone directory for location of your nearest Sherwin-Williams Branch. Ask for brochure KL-511. Or mail the coupon below.

Services of trained industrial finish specialists available in your area through nearest Branch.

SHERWIN-WILLIAMS

INDUSTRIAL FINISHES

THE SHERWIN-WILLIAMS CO.
General Industrial Division
Cleveland 1, Ohio

☐ Please send copy of KL-511 "Kem Lustral Enamel".

☐ Please send information on:

_____ Type of finish

for _____ Application

Name _____

Company _____

Address _____

▲ For more details circle NED-798 G3 on enclosed inquiry slip ▲

New Literature & Catalogs

Electric Truck Tire

Monarch Rubber Co.—A free-rolling tire designed to reduce traction resistance and save battery life in electric trucks is described in 4-page illustrated bulletin. Special rounded tread pattern and unusual physical composition of the rubber combine to reduce rolling resistance as much as 30 per cent under maximum load.

▲ For more details circle NED-799 G3 on enclosed inquiry slip ▲

Automatic Doors

Stanley Works, Magic Door Div.—16-page illustrated catalog covers a variety of automatic doors for commercial and industrial applications. Door actuation is pneumatic. This mechanism is put into operation by any of a number of means, including push buttons and cords, foot pressure type switch and photoelectric cells. Many applications are described, with operating layouts and safety features.

▲ For more details circle NED-800 G3 on enclosed inquiry slip ▲

Industrial Controls

Minneapolis-Honeywell Regulator Co., Industrial Div.—Nonindicating electric, electronic and pneumatic controllers for temperature, pressure and humidity, plus pneumatic and electric valves, switches and relays are described and illustrated in 80-page catalog 8305. Specifications, dimension drawings and application data are included.

▲ For more details circle NED-801 G3 on enclosed inquiry slip ▲

Stainless Steel Bars

Allegheny Ludlum Steel Corp.—Technical data book on stainless steel bars, an illustrated publication of 28 pages, includes information to aid user in selection of proper material for the job at hand. There are reference tables on sizes and shapes available, weights and corrosion resistance. Section is devoted to fabrication and processing information, including cutting, welding, machining, tapping and other operations.

▲ For more details circle NED-802 G3 on enclosed inquiry slip ▲

Safety Signs & Equipment

Eastern Metal of Elmira, Inc.—Made according to government specifications, line of safety signs and equipment listed in 6-page folder covers accident prevention, warning of electrical hazards, directional and general information, no smoking, fire prevention and other legends. Sizes and colors available and prices are given.

▲ For more details circle NED-803 G3 on enclosed inquiry slip ▲

Electrical Wiring Devices

Rodale Mfg. Co. — Illustrated and designed for quick reference, 1953 catalog on electrical wiring contains explanatory diagrams showing manufacturing details. Covered are electrical wiring devices and Turn-Tyte interlocking devices.

▲ For more details circle NED-804 G3 on enclosed inquiry slip ▲

Hydraulic Pullers & Attachments

Owatonna Tool Co.—Attachments and adaptors for 17½, 30 and 50-ton rams for hydraulic pullers are described and illustrated in relation to the functions they perform in catalog HY-1953. They can be used for installation and removal of gears, bearings, pulleys, shafts, etc.

▲ For more details circle NED-805 G3 on enclosed inquiry slip ▲

Hardware, Locks & Handles

A. L. Hansen Mfg. Co.—4-page illustrated brochure No. 90 shows many locks, handles and other hardware items including regulators and hinges. Pictured applications include many in the automotive field.

▲ For more details circle NED-806 G3 on enclosed inquiry slip ▲

Suspended Heavy Duty Magnets

Magnetic Engineering & Mfg. Co.—8-page catalog No. 752 describes and illustrates a full line of high power suspended magnets. Shown applied to tramp iron separation from conveyor belt lines are both rectangular and circular models. Self-cleaning types are included. Complete specifications are given.

▲ For more details circle NED-807 G3 on enclosed inquiry slip ▲

Standard Castings

Myerstown Foundry & Machine Works—Standard castings in iron, semisteel and nonferrous metal, available without patterns in all sizes, shapes and forms are described in new illustrated catalog. Catalog shows how to order your casting directly from stock without waiting for patterns to be made.

▲ For more details circle NED-808 G3 on enclosed inquiry slip ▲

Industrial CRANES

Improve Your Profit

INDUSTRIAL CRANE & HOIST CORPORATION

(formerly Industrial Equipment Co.)

327 NORTH ADA STREET CHICAGO 7, ILLINOIS

Overhead-Cranes • Jib Cranes • Monorail Systems

Crane Runways

Representatives in Principal Cities

▲ For more details circle NED-809 G3 on enclosed inquiry slip ▲

O-M CYLINDERS

air · hydraulic

Smoother operating!..

THE LOWEST COEFFICIENT OF FRICTION OF *ANY CYLINDER!*

For efficient performance at low pressure, the O-M Cylinder really stands out! Smoothness of bore (4 to 7 micro-inches), and self-adjusting packing reduce friction . . . floating-cushion noses *eliminate binding, dragging, jerking.* This assures a smoother stroke at low or high speeds. And every O-M Cylinder is ALL cylinder! *Interlocking* mechanism does away with projecting tie rods and end caps, saving up to ⅓ installation space, and permitting the use of a more powerful cylinder for the job. Easier to install and repack. End plugs tapped for universal mounting—with a complete range of mounting brackets, interchangeable bore for bore. All machined steel, with bearing bronze (no castings)—easily turned down to fit in deep recesses of machines or bases.

Available in full range of sizes (1½" to 8" bores), with standard, 2 to 1 or oversize rods. Completely interchangeable parts. FREE catalog and set of ½ and ¼-scale templates show all cylinders and mounting brackets.

14-day delivery on most sizes

FREE CATALOG and Templates

ORTMAN-MILLER MACHINE CO.

1222 150th Street, Hammond, Indiana

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COSMOLUBE

HOUGHTON

MULTI-PURPOSE **GREASE**

Lasts Longer!

- High melting point
- Pumps at 20° *below zero*
- Insoluble in water
- Adheres securely to metal
- Resists oxidation
- Stores without separating

GET THE LATEST BULLETIN

on this heavy-duty grease widely used throughout industry in cold, hot and wet locations. Address E. F. Houghton & Co., 303 W. Lehigh Avenue, Philadelphia 33, Pa.

COSMOLUBE . . . *a product of*

E. F. HOUGHTON & CO.

PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO

Ready to give you on-the-job service . . .

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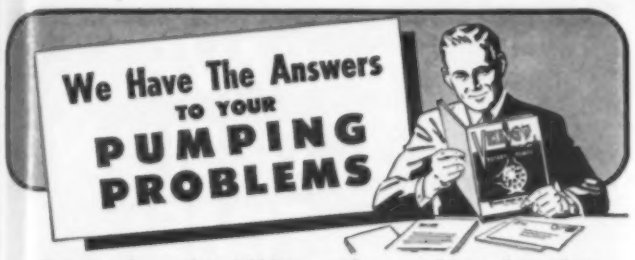
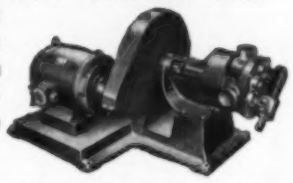


Every day the Viking sales and engineering staffs answer questions on pumping for a long list of satisfied customers.
Many are companies with problems very similar to yours.
These questions can be answered correctly because Viking people draw from over 40 years' successful pumping experience and recommend from the fastest-growing, most complete line of rotary pumps on the market. Over 600 standard models plus endless special designs. There's no compromise with Viking Pumps. We invite your questions on pumping problems.



VIKING AN HONORED NAME IN PUMPING

Learn about the complete line of Viking standard and heavy-duty pumps for handling both thin and viscous liquids up to 200 psi. Send for folder 53SG today.

See Our Catalog in Sweets

VIKING PUMP COMPANY CEDAR FALLS, IOWA

For more details circle NED-812 G3 on enclosed inquiry slip

METZGAR GRAVITY CONVEYORS

16 YEAR'S Continuous Service

..at no maintenance cost because Metzgar carries the load on these sturdy bearings — ¼" steel balls (Hoover or equal) spinning in hardened labyrinth ball races.

Standard in all Metzgar wheel and roller gravity Conveyors.

Write for descriptive folder.

METZGAR CO. METZGAR CONVEYORS

MFGRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES & REEL DOLLIES

416 Douglas, N. W.

GRAND RAPIDS 4, MICH.

For more details circle NED-813 G3 on enclosed inquiry slip

Let UNIVERSAL's Engineers Help You with Your—

WORK PLATFORMS and MOBILE MAINTENANCE TOWERS — easily erected to any size, in any shape and in any length with Ezebilt or Ladscaf Scaffolding.
SCAFFOLDING LAYOUTS for large buildings or rooms using fast-to-erect, adaptable Ezebilt or Ladscaf Scaffolding.
TOUGH JOBS—solved with Endlok pipe & clamp Scaffolding.

NEW Ladscaf LIGHTWEIGHT SCAFFOLDING with Fast-Acting 'Lock-On' Clamps—Now Available

Write for Bulletin N-7

UNIVERSAL MANUFACTURING CORP. ZELIENOPLE, PA.

"World's Largest Producer of Steel-Panel Scaffolding"

Distributors Offer Fast Help and Service - Consult Your Phone Directory

For more details circle NED-814 G3 on enclosed inquiry slip

New Processes & Materials

CLAD STEEL SAMPLE KIT aids in selection of desired finishes

Clad steels sample kit consists of a number of samples polished to various finishes, contained in the pockets of a convenient reference holder. Such clads as nickel, stainless, Inconel, Monel and copper are available, and provide low cost product protection, corrosion resistance and other advantages. The kit is designed to aid designers, engineers and fabricators in selecting from the various finishes available. Offered by **Lukens Steel Co.**, 308 Lukens Bldg., Coatesville, Pa.

For more details circle NED-815 G3 on enclosed inquiry slip

FILTER FABRIC for filter press or vacuum filter

Dynel windsor felt, a chemically resistant fiber bonded filter fabric, is usable as filter mat in filter press or vacuum filter applications for efficient cake formation or clarity of filtrate. Material is of multi-ply carded constructon with uniform fiber distribution. It is stable to bacteria and has good resistance to acid or alkaline solutions. Felt wets out readily and shows good cake release. Made by **American Felt Co.**, 80 Glenville Rd., Glenville, Conn.

For more details circle NED-816 G3 on enclosed inquiry slip

MULTIPLE CORE SOLDER alloy has high melting point

With a melting point of 296° C, Ersin Multicore solder is offered in Comsol alloy, a soft silver solder with three cores containing a noncorrosive and active flux. It is suitable for the manufacture of products likely to experience high temperatures in operation. Comsol alloy solder, tested at a temperature of 150° C, fails under a load of 500 psi in 250 hours, in about 1 year at 250 psi, while at 100 psi no creep was noticed. Available from **Multicore Sales Corp.**, Dept. M, 164 Duane St., New York 13, N. Y.

For more details circle NED-817 G3 on enclosed inquiry slip

INSULATING VARNISH withstands up to 356° F

Capable of withstanding temperatures as high as 356° F, Irvington No. 180 heat resistant insulating varnish shows no adverse effects. It is clear in color, has good oil and moisture resistance and possesses a dry dielectric strength of 2100 v per mil. Made by **Irvington Varnish & Insulator Co.**, Dept. NED, 6 Argyle Terrace, Irvington 11, N. J.

For more details circle NED-818 G3 on enclosed inquiry slip

RUST PREVENTIVE is excellent paint base

A highly dispersible oil that penetrates quickly to the base metal on exposed or tightly closed surfaces, Penetrol prevents and inhibits damage caused by oxidation of iron and steel. It also makes a good foundation for paint, utilizing rust to form a protective coating. As a reinforcing additive, it is useful for practically all air-drying oil-type maintenance paints, except lacquer, plastics, rubber or water base paints and coal tar materials. It is also a vehicle for aluminum paste or powder. A pint sample can be obtained free of charge from **Flood Co.**, Dept. NED, Hudson, O.

For more details circle NED-819 G3 on enclosed inquiry slip

TAL PORTABLE BENDERS — Complete ALL Piping Jobs FASTER

SAVE ON
- Number of Fittings
- Elbows & Couplings
- Cutting, Threading
- Overall Costs

Install pipe & conduit *faster* at *lower cost* by reducing up to 80% the number of fittings or elbows and couplings otherwise needed. Save on cutting and threading. You can with a Tal, because Tal Portable Benders make any degree bend up to 180° in a SINGLE OPERATION WITHOUT SHIFTING THE PIPE.

No guesswork for offsets, long sweeps or any other bends. No experience necessary to make accurate, wrinkle-free bends right on the job. *No spoilage.* Bend indicator assures identical repeat bends without measuring. Learn today how you can earn more money and handle more jobs with a Tal bender.

COMPLETE LINE OF BENDERS
For pipe up to 8 inch.
For copper and thinwall tubing.
6 Way Hickeys—lifetime guarantee.

WRITE FOR THIS FREE BULLETIN.

Tal Bender, Inc. Dept. 4 Milwaukee 2, Wis.

For more details circle NED-820 G3 on enclosed inquiry slip

You Just Can't File Away These Problems...

BLAST CLEANING

...of bridges, buildings, tanks, structural work

Pangborn Blast Cleaning Machine—Cleans tanks, bridges, structures quickly and economically. Ideal for maintenance and other jobs, such as removal of dirt, rust, etc. Six sizes, stationary or portable, $188 and up.

...of small castings, forgings, stampings, heat treated parts.

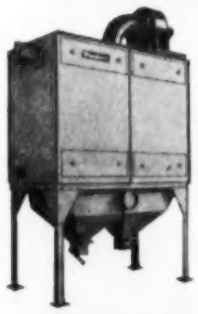
Pangborn Blast Cabinet—Saves time and money in cleaning small metal parts, removing rust, scale, grime, old paint, etc., in a few seconds. Perfect for producing clean, smooth surfaces on pieces 60" x 35" in size. Models from $319 and up.

PRECISION FINISHING

...of molds, dies, tools

Pangborn Hydro-Finish Cabinet—Removes scale and directional grinding lines . . . holds tolerances to .0001" and prepares surfaces for painting or plating. Liquid blast reduces costly hand cleaning and finishing of molds, dies, tools, etc. Models from ..... $1410 and up.

CONTROLLING DUST



...at the source of origin

Pangborn Unit Dust Collector—Traps dust at the source. Reduces maintenance costs . . . keeps plant clean and improves community relations. Allows reclamation of valuable material. Models from .....$286 and up.

BUT YOU CAN MAIL THIS COUPON TO PANGBORN FOR HELP IN SOLVING THEM!

Pangborn

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control equipment

☐ Blast Cleaning Cabinets
☐ Blast Cleaning Machines
☐ Unit Dust Collectors
☐ Hydro-Finish Cabinets

PANGBORN CORP., 2400 Pangborn Blvd., Hagerstown, Md.
Gentlemen: Please send me more information on the equipment I've checked. To be used for.....
.....
Name .....
Company .....
Address .....
City .....Zone....State.....

For more details circle NED-821 G3 on enclosed inquiry slip

FREE Send for your copy today

Helps you choose the RIGHT Hood Glove — *Neoprene, Rubber or Plastic* for ANY Industrial job

Check this Reliable, Handy Hood Performance Chart!

. . . this information-packed booklet shows comparative wear and chemical resistance of Hood Neoprene, Rubber and Plastic Coated Gloves, and contains illustrations and full descriptions of the complete line of Hood Industrial Gloves — top choice for *every* job in *any* industry.

HOOD RUBBER CO.
Watertown, Mass.

For more details circle NED-822 G3 on enclosed inquiry slip

USERS OF
CLUTCHES
OVER-RUNNING • BACKSTOP • INDEXING

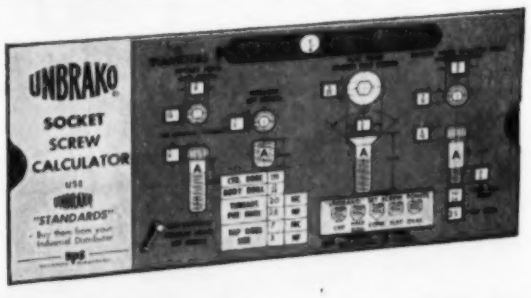
GET THIS FOLDER FOR YOUR FILES!

Explains why FORMSPRAG Clutches give greatest possible torque capacity for size and weight. Shows how the sprags grip at infinite number of positions—no backlash. Also contains basic engineering data.

FORMSPRAG COMPANY
23595 Hoover Road • Van Dyke, Michigan

FULL COMPLEMENT
FORMSPRAG Clutches
Distributors in principal cities

For more details circle NED-823 G3 on enclosed inquiry slip



Our New UNBRAKO Screw Calculator
YOURS FOR THE ASKING

This handy pocket-sized slide-rule type socket screw calculator gives diameters, lengths, socket dimensions, threads and drill sizes—in fact, everything you want to know when using UNBRAKO socket screw products.

And it's free. Ask your UNBRAKO distributor or write SPS, Jenkintown 24, Pa.

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Standard UNBRAKOS *are sold by leading industrial distributors everywhere.*

SOCKET SCREW DIVISION

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SPS
JENKINTOWN PENNSYLVANIA

Self-Locking Set Screws | Flat Head Cap Screws | Shoulder Screws | Knurled Head Cap Screws | Dowel Pins | Button Head Socket Screws

For more details circle NED-824 G3 on enclosed inquiry slip

New Literature & Catalogs

Steam Boiler Plants

Eclipse Fuel Engineering Co.—Detailed information on construction, operation and specifications relative to Super-Matic Scotch "Steamboilerplants" is presented in 10-page illustrated bulletin A-104. Units are self-contained, fully automatic and assembled ready to produce hot, dry steam. Ten sizes, ranging from 12 to 125 hp, create from 414 to 4312.5 lb of steam per hour.

For more details circle NED-825 G3 on enclosed inquiry slip

Press Brake Catalog

Cincinnati Shaper Co.—The 72 pages of profusely illustrated catalog B-4 depict these machines in forming, corrugating, curving, notching, punching, trimming and pressing operations; show the Cincinnati line; highlight their features; and offer important fundamentals in selecting a press brake with full specifications. A special feature section, and 8 pages of die sketches which show types rather than specific dies conclude the literature.

For more details circle NED-826 G3 on enclosed inquiry slip

Lubrication Pumping Unit

Farval Corp.—What the DC-20 automatic pumping unit is, how it works and what it does is told in 4-page illustrated bulletin No. 39. It delivers accurately metered amounts of lubrication and has independent automatic time clock control.

For more details circle NED-827 G3 on enclosed inquiry slip

Soldering Irons & Tips

General Electric Co.—Soldering irons and tips are described in 8-page illustrated bulletin GEA-4519. Many irons are described with capacities ranging from 75 to 1250-w. Tip data includes a description of a protective calorizing process. A flux selection chart is included giving flux types for materials and applied finishes.

For more details circle NED-828 G3 on enclosed inquiry slip

Metal Surface Treatment

Electrolizing Corp.—Electrolizing, a surface treatment which imparts exceptional wear, abrasion and corrosion resistance to ferrous and nonferrous metals is subject of 16-page booklet. Process consists of a stress relieving phase which increases fatigue limit of base metal followed by deposition of hard, dense and ductile alloy. Deposit will not chip, peel or spall under any operating condition.

For more details circle NED-829 G3 on enclosed inquiry slip

Air & Hydraulics

Rivett Lathe & Grinder, Inc.—With a pictorial condensation of a line of more than 400 valves and cylinders, 4-page bulletin shows air and hydraulic power applications. Air valves and cylinders, hydraulic valves and cylinders, and power units are all represented.

For more details circle NED-830 G3 on enclosed inquiry slip

Photographic Equipment

Burke & James, Inc.—Wide variety of photographic equipment and supplies, including many types of cameras, lenses, enlargers, timers, developers and viewers, is found in 72-page illustrated annual catalog 1051H. Included are special purpose lenses for recording, radiography, oscillography and time lapse.

For more details circle NED-831 G3 on enclosed inquiry slip

Saw Blades

Motch & Merryweather Machinery Co.—8-page illustrated bulletin 100-CT gives data on a line of cutoff, slitting and slotting blades, also circular knives and slitters, saw grinders and cutting oils. Many different types are featured.

For more details circle NED-832 G3 on enclosed inquiry slip

Aircraft Supplies & Equipment

First in series of seven catalogs that will comprise a comprehensive and informative reference on aviation supplies and equipment is AA catalog No. 21a entitled "Aircraft Hardware." First 66-page section illustrates and describes, with ordering information and weight tables, such items as nuts, bolts, rivets, clips, clamps, pins, turnbuckles, pulleys, washers, rod ends, fasteners and fittings. Back section contains 184 original AN specifications reprints, complete with exact dimensions of parts for each item of hardware included. Send catalog requests on company letterhead to Air Associates, Inc., Dept. AD., Teterboro, N. J.

For more details circle NED-833 G3 on enclosed inquiry slip

SAVE DESIGN TIME!

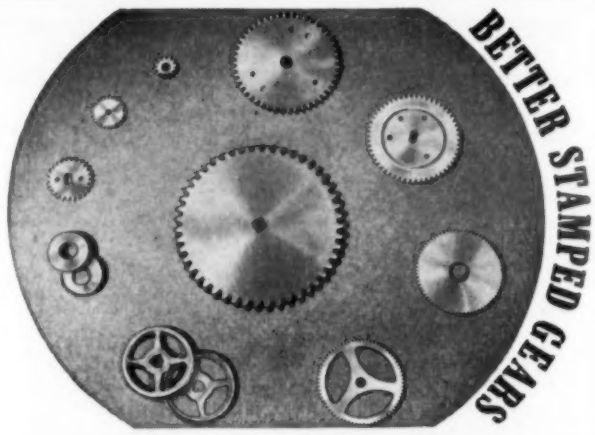
Danly Die Springs give you a double range of sizes

Two complete pressure and deflection ranges permit quick selection of springs that meet your needs exactly . . . eliminate redesign or compromise on oversize or undersize springs. Write for your Danly Die Spring Bulletin now!

Yours Free!
Send for this FREE Die Spring Bulletin today!

DANLY
DANLY MACHINE SPECIALTIES, INC.
2100 South Laramie Avenue, Chicago 50, Illinois

For more details circle NED-834 G3 on enclosed inquiry slip



BETTER STAMPED GEARS

Save Up To 60% On Gear Costs

More and more manufacturers are saving a lot of money by using WINZELER *laminated* Stamped Gears. Now, for many applications, single stampings can be laminated and indexed to produce wider faces, at savings up to 60%! Greater skill and accuracy in tooling, stamping and assembling assures smoother, quieter operation. Avoid assembly headaches, delays, downtime, waste. Get the *uniform* quality only WINZELER Stamped Gears can give!

WRITE FOR FREE folder describing our facilities, assemblies, and various Stamped Gears. Includes data and tables. Samples, ideas, quotations, for the asking.

WINZELER Stamped Gears

WINZELER MANUFACTURING & TOOL CO.
1712 WEST ARCADE PLACE, CHICAGO 12, ILLINOIS

For more details circle NED-835 G3 on enclosed inquiry slip

new Baker gas-O-matic

FORK TRUCK

Revolutionary gas-powered Fork Truck with built-in generator and electric drive.

SMOOTHER ACCELERATION! BETTER "INCHING"! LOW INITIAL COST! LESS MAINTENANCE!

GAS-O-MATIC has no clutch or gear shift, and no electric controller, thus eliminating "step-ladder" acceleration and maintenance headaches. Greatest fuel economy of any gas truck!

Uses 40% less fuel than other gas trucks!

Baker industrial trucks

write for descriptive bulletin No. 1344
THE BAKER-RAULANG COMPANY
1245 W. 80th STREET • CLEVELAND 2, OHIO
BAKER-LULL Corp., *Subsidiary*, Minneapolis, Minn.
Material Handling and Construction Equipment

For more details circle NED-836 G3 on enclosed inquiry slip

QUIK-LIFT ELECTRIC HOISTS
17 models —500- to 4,000-lb.

CHALLENGER LIGHTWEIGHT ALL STEEL SPUR-GEAR HOISTS
3 models — ½-, 1-, and 2-ton

OTHER SPUR-GEAR HOISTS
22 models — ¼- to 25-ton

fill all your portable hoist needs from one reliable source

OVER A HUNDRED SIZES AND MODELS OF COFFING HOISTS

Safety-Pull Ratchet Lever Hoists
10 roller-chain models — 1,500- to 30,000-lb.
2 coil-chain models — 1,500- and 3,000-lb.

Mighty-Midget Pullers
2 sizes — 500- and 1,000-lb.

Hoist Binder
3,000-lb. capacity.

Safety Load Binders
2 models — 3,000- and 6,000-lb.

Low Headroom Hoists
12 models — 1½- to 24-ton

I-Beam Trolleys
21 models — ¼- to 25-ton

Clevis-Connected Hoists
11 models — ¼- to 10-ton

Differential Chain Hoists
2 sizes — ½- and 1-ton

Extended Hand Wheel Hoists
6 models — ¼- to 3-ton

Army-Type Hoists (plain and geared)
11 models — ¼- to 10-ton

The broad Coffing line lets you select exactly the right hoist for the job. For more information on units you need, see your distributor or write Dept. X7.

COFFING HOIST CO. DANVILLE, ILLINOIS

For more details circle NED-837 G3 on enclosed inquiry slip

Produce MORE STEAM... in LESS SPACE... at LOWER COST!

WITH

CYCLOTHERM* CYCLONIC COMBUSTION

● In thousands of installations, Cyclotherm Steam Generators set new standards for performance and economy. Exclusive Cyclotherm flame control produces 66% more power per sq. ft. of heating surface than competitive type boilers and requires only 3 sq. ft. of heating surface per Boiler Horsepower . . . saving up to ⅓ on installation space.

- Guaranteed 80% efficiency
- Complete on arrival. Only 4 easy connections
- Fully automatic controls
- Full power operation in 15 minutes

Cyclotherm Steam Generators are designed for 18 to 500 h.p., 15 to 200 psi operating pressures. Approved—ASME, Nat'l. Board Standards, Underwriters Laboratories, Inc.

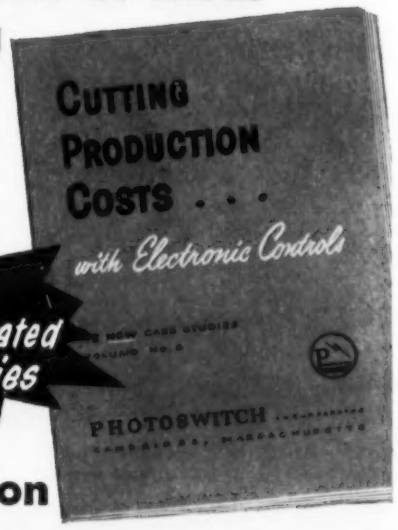
*Reg. trade name

Write for free catalog today. Dept. 40

CYCLOTHERM* STEAM GENERATORS
CYCLOTHERM DIVISION UNITED STATES RADIATOR CORP. · OSWEGO, NEW YORK

For more details circle NED-838 G3 on enclosed inquiry slip

FREE! Full of ideas for saving with Electronic Controls



45 new illustrated case studies

1953 Edition

A completely revised edition of the handbook that has become the "bible" of electronic control for thousands of engineers and production executives.

Newly edited, with 45 new case studies showing how standard packaged electronic controls have solved many industrial problems you're likely to meet. It explains clearly and factually, without hocus-pocus, tested ideas for achieving new efficiency through "Electron-eered" counting, weighing, measuring, timing and cycling.

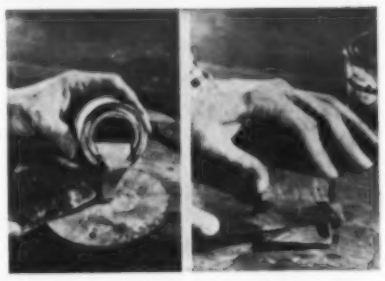
SEND FOR YOUR COPY NOW!

PHOTOSWITCH INC.
Dept. NA 7, 77 Broadway, Cambridge 42, Mass.

For more details circle NED-839 G3 on enclosed inquiry slip

New Processes & Materials

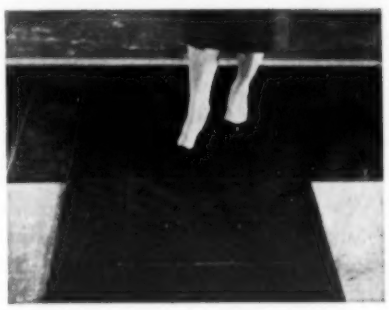
METAL SOLDER
is based on Vinylite resins



Hardening without heat to form a permanent bond to metal, wood, plaster, glass or plastic, Lab-Metal has strong adhesion and good machinability. Applied with a putty knife or similar tool (left), it hardens relatively fast and can then be filed (right), drilled, tapped, or ground or sanded to a smooth feather edge. Resistant to moisture, rust, rot and mildew, it does not shrink, crack, peel or chip and it withstands climatic changes. Made by **Alvin Products, Inc.**, Dept. A, 20-22 Houghton St., Worcester 4, Mass.

For more details circle NED-840 G3 on enclosed inquiry slip

FLOOR MAT
heavy duty, nonslip type



Resistance to oil and grease and ability to stand up under heavy traffic are features of this heavy duty, nonslip floor mat. Rubber compound withstands cutting action of metal chips. Mat can be used outdoors and is offered in standard size of 32 x 32 in. or cut into 8-in. squares or strips of four squares for stair tread use. Color is black. Made by **Byron Jackson Co.**, PB Div., 2301 E. Vernon Ave., Los Angeles 38, Calif.

For more details circle NED-841 G3 on enclosed inquiry slip

PAINT STRIPPING MATERIALS
immersion, brush-on types offered

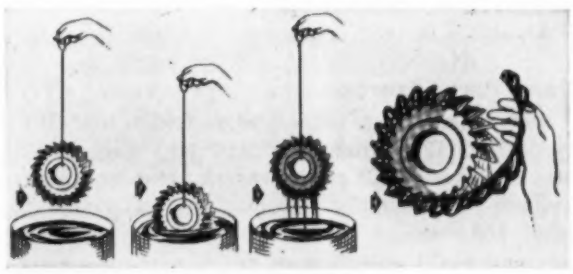
One of two paint strippers now available, Composition No. 56 is thin-bodied neutral solvent with pH of 7. It is nonflammable. Developed for immersion stripping of urea-formaldehyde, alkyd, phenolic and urea-melamine finishes; lacquers; varnishes; wrinkle finishes and vinylite resins, material is used at full strength and unheated. It is safe to use on steel, brass, copper, zinc, magnesium and aluminum, and can be used on wood.

Second composition No. 57 is a viscous solvent intended to replace combinations of nonviscous solvent detergents and thickeners when stripping finishes from vertical and inverted equipment surfaces. It also is nonflammable and contains no phenols, acids or alkalies. It can be applied safely on all metals at full strength by brush-on method and is allowed to soak until paint wrinkles or softens. Formulated by **Oakite Products, Inc.**, 132G Rector St., New York 6, N. Y.

For more details circle NED-842 G3 on enclosed inquiry slip

PROTECTIVE COATING
plastic type is hot dip applied

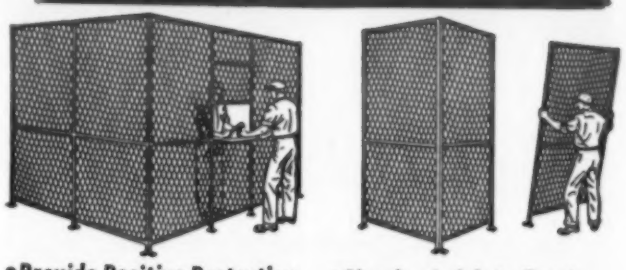
For protecting tools, gears and machine parts during processing, storage and shipping, 3601 Plastic Peel is applied at 190° C and peels readily when required



with the aid of a sharp stick. Parts are immersed in the solution for approximately 5 seconds, film thickness deposited depending on heat conductivity, time immersed and temperature. Large parts are dipped by immersing one end and then the other. A center film overlap is not detrimental. The compound passes tests as specified by Ordnance Specification AXS-1167. Made by **Adhesive Products Corp.**, 1662 Boone Ave., Bronx, N. Y.

For more details circle NED-843 G3 on enclosed inquiry slip

Protect TOOLS AND EQUIPMENT WITH ACORN WIRE MESH PARTITIONS



•Provide Positive Protection
Acorn Wire Mesh Partitions, by enclosing tool cribs and stock rooms, prevent tool and parts pilfering, give tight control of tools, material and personnel in these areas. Divide large open spaces into efficient, separate departments, cut down confusion. Cost much less than solid walls, permit passage of light, air, sound and heat.

•Simple, Quick to Erect
Made in inexpensive standard panels in two designs. Acorn Wire Mesh Partitions are easy to erect, take down, or move anywhere, with no need to move radiators or lights. Can be added to, or reduced in size. Doors can be moved, and corners made quickly to meet changing needs.

ACORN WIRE and IRON WORKS
5910 S. Lowe Ave., Chicago 21, Ill.

For more details circle NED-844 G3 on enclosed inquiry slip

more advantages than any other heating method for FORGING • EXTRUSION • ANNEALING

Here are the outstanding advantages . . .

Taper heat control; one-fifth the floor space; no warm-up time; exact temperature (measured) of every billet; completely automatic. Size range begins at 4" steel bars—1⅛" in aluminum and 3" with brass. Maximum almost unlimited—now up to billets of 32" diameter and 6,000 pounds.

If you want prompt and authentic information on a Magnethermic Heater, let us know what size billet; for what use; and, desired production rate. Your inquiry will receive prompt attention.

THIS BOOKLET MAY END A LOT OF YOUR HEATING PROBLEMS

The bulletin has sizes, styles, descriptions and other useful information. A copy will be mailed promptly upon request.

60-CYCLE
MAGNETHERMIC corporation
3990 SIMON ROAD YOUNGSTOWN 7, OHIO
INDUCTION HEATING

For more details circle NED-845 G3 on enclosed inquiry slip

The Improved Hydraulic

PULLEY PULLER

For Removing Pulleys Wheels, Gears, Couplings Sheaves, etc.

One man can do it in minutes—even if objects are stuck fast. No crowbars, sledges or blowtorches. No damage to equipment. Puller is adjustable—easy to move—rugged. Hundreds being used in industry.

- 5-ton size on wheels $92.50
- 20-ton size on wheels $290.00
- 50-ton size as shown $655.00

(F.O.B. Factory)

Write for complete information — Catalog E

INDUSTRIAL ENGINEERING EQUIPMENT CO.
122-124 E. 4th St. Davenport, Iowa

▲ For more details circle NED-846 G3 on enclosed inquiry slip ▲

WICKWIRE ROPE SLINGS

tough...strong...extra flexible

Wickwire Rope Slings are offered in both braided and conventional types . . . are designed to hitch on to heaviest loads with utmost safety, ease of handling and absolute security of attachments. Where extreme flexibility is required, Wickwire Slings of braided design give definite advantages in non-kinking qualities and in their ability to handle materials of all types and shapes without taking a permanent set.

Let us know your requirements. Our engineers will be pleased to analyze your sling problems and recommend the correct solution.

THE COLORADO FUEL AND IRON CORPORATION – Abilene (Tex.) Denver • Houston • Odessa (Tex.) • Phoenix • Salt Lake City • Tulsa
THE CALIFORNIA WIRE CLOTH CORPORATION – Los Angeles Oakland • Portland • San Francisco • Seattle • Spokane
WICKWIRE SPENCER STEEL DIVISION–Boston • Buffalo • Chattanooga Chicago • Detroit • Emlenton (Pa.) • New York • Philadelphia

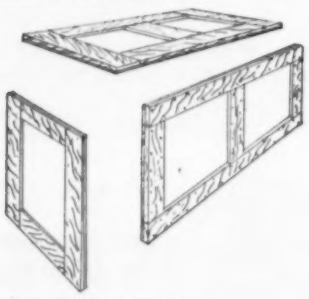
WICKWIRE ROPE
CF&I PRODUCT OF WICKWIRE SPENCER STEEL DIVISION THE COLORADO FUEL AND IRON CORPORATION

▲ For more details circle NED-847 G3 on enclosed inquiry slip ▲

AUTO-NAILER* MAKES SHOOKS

...FASTER...STRONGER...CHEAPER.

3-nails-a-second speed saves up to 75% in labor costs over hand nailing.



More rigid shooks—less racking. Shooks are auto nailed under 1,000 lbs. pressure effecting tremendous friction between the shook members.

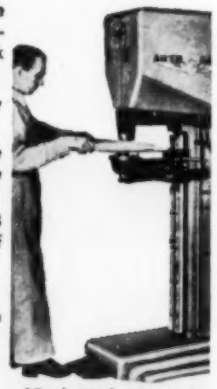
No jigs necessary — Auto-Nailer will nail any pattern.

Auto-Nailer is flexible—changing from one size (or design) to another requires no machine adjustment.

Auto-Nailer makes and drives its own nails—3 a second—can be clinched or bradded, if desired.

Auto nails will not back out.

Auto nails reduce nail cost. Use only length that's needed. None bent; none dropped.



Write for free catalog

*Trade Mark registered

AUTO-NAILER CO.,
269 MARIETTA ST., N. W. • ATLANTA GEORGIA

▲ For more details circle NED-848 G3 on enclosed inquiry slip ▲

New Literature & Catalogs

Mechanical Shaft Seal

Sealol Corp.—Highlights of 8-page bulletin 7 on the balanced pressure, rotary type fluid seal for shafts in high pressure applications include description of several types, drawn and tabulated dimensions and specifications, installation and design data and drawings of typical installations. Seals shown handle pressures up to 1000 psi, operate at rubbing speeds of 15,000 fpm and at temperatures up to 500° F.

▲ For more details circle NED-849 G3 on enclosed inquiry slip ▲

Hydraulic Jacks

Templeton, Kenly & Co.—Information on Simplex hydraulic jacks, rams and pullers is offered in revised bulletin No. 53 of 12 pages. Application pictures are featured, and information on accessories and attachments for equipment with capacities of 10 to 100 tons is included.

▲ For more details circle NED-850 G3 on enclosed inquiry slip ▲

Bulk Handling System

Tote System, Inc.—"A Complete System to Solve Your Bulk Material Handling Problems" is title and subject of 16-page illustrated catalog No. 3. System makes use of aluminum tote bins, available in 42, 74 and 110-cu ft sizes for handling almost any bulk commodity, wet or dry, and automatic filling and discharging equipment. Savings realized are shown.

▲ For more details circle NED-851 G3 on enclosed inquiry slip ▲

Electronic Tubes

Amperex Electronic Corp.—Detailed listing of electronic tubes for communication, industrial, rectification, radiation detection, electro-medical and special purposes is found in 20-page bulletin. This piece is compiled for quick reference and tube selection.

▲ For more details circle NED-852 G3 on enclosed inquiry slip ▲

Care of Rubber Hose

Hewitt-Robins Inc.—"Tips on Hose Care" is title of a 4-page illustrated manual, with "do's and dont's", on the use and storage of hose including steam, fire, oil, gasoline, water, air, suction and sandblast types. Installation tips and methods of making static bonds are fully covered.

▲ For more details circle NED-853 G3 on enclosed inquiry slip ▲

Switches, Switches, Switches

Wells Sales, Inc.—Over 150 types of switches, including toggle and leaf types, Micro and Switchette miniature types, plunger, roller and wafer types, vacuum pressure, circuit breakers, timers and others are detailed in 16-page catalog C-11. Prices and specifications are given.

▲ For more details circle NED-854 G3 on enclosed inquiry slip ▲

Jeweler's Lathes & Accessories

Louis Levin & Son, Inc.—32-page fully illustrated catalog L gives a complete picture of a line of jeweler's equipment including precision lathes of both engine and turret types, micro-drill presses and watchmaker's tools. Full specifications are included for each item mentioned, and many application photographs are also shown.

▲ For more details circle NED-855 G3 on enclosed inquiry slip ▲

Ball Bearing Screw Jacks

General Motors Corp., Saginaw Steering Gear Div. —Information presented in 12-page brochure on "Ball Bearing Screw Jacks" covers application, engineering, selection and company facilities. Charts graphically illustrate operating efficiency, life factor and column load. Jacks utilize rolling ball principle applied to screw and nut.

▲ For more details circle NED-856 G3 on enclosed inquiry slip ▲

Rotary Parts Storage

Union Metal Mfg. Co.—6-page folder MH-810 describes and illustrates standard and special Vu-O-Matic rotary small parts stands and components. Standard jar assembly sizes include 16, 8 and 4-oz; special sizes range to 32-oz. These units conserve space and make selection of small parts easy.

▲ For more details circle NED-857 G3 on enclosed inquiry slip ▲

Conveyors & Accessories

Speedways Conveyors Inc. — Gravity wheel and roller conveyors and accessories and power belt conveyors are featured in 1953 catalog. Power types include floor-to-floor, portable and assembly models. Catalog also contains details of a factory engineering service.

▲ For more details circle NED-858 G3 on enclosed inquiry slip ▲

RUBBER-CUSHIONED

Brightboy

NOW AVAILABLE IN

6 VERSATILE TEXTURES

For Burring, Finishing, Cleaning, Polishing
ALL METALS, PLASTICS, WOOD, GLASS, LAMINATED MATERIALS
In One Time-Saving Operation!

54 BL. For faster finishing action on all metals.
TUFF-TEX. For finishing action on sharp burrs and edges.
70 BL. Wide range of finishing action on all metals.
STANDARD. General finishing action on all metals.
120 BL. Wide finishing range on medium-hard and soft metals; high polish on hard metals.
FINE-TEX. Polishing, finishing, and burring soft metals; cleaning medium-hard and hard metals.

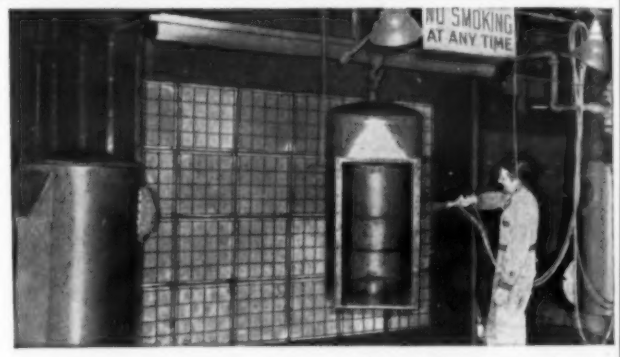
Time-and-work-saving applications hitherto beyond the limits of other finishing methods. ASK YOUR DEALER FOR BROCHURE or write us for it, and on any problem where finishing is involved.

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 No. 13th Street
Newark 7, N. J.
America's Pioneer Manufacturer of Rubber-Bonded Abrasives

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

▲ For more details circle NED-859 G3 on enclosed inquiry slip ▲

HERE'S THE ECONOMICAL WAY TO PAINT SPRAY BOOTH EFFICIENCY



(Photo Courtesy American-Standard) Elyria, Ohio Plant

. . . With RP Paint Arrestors

This converted paint spray booth not only brought real savings in installation and maintenance costs, but also practically eliminated "down-time". Your plant, too, can benefit with RP Paint Arrestor pads to control paint overspray, economically and efficiently.

WRITE FOR FREE BOOKLET

Helpful, informative suggestions to solve your overspray control problems. Write today.
RESEARCH PRODUCTS CORPORATION
Dept. 31, Madison 10, Wis.

RP . . . PRODUCTS OF RESEARCH

▲ For more details circle NED-860 G3 on enclosed inquiry slip ▲

SPRING-CORK STICKS!

Spring-Cork is the superior pressure-sensitive tape that *really* sticks. It's made of synthetic rubber, ground cork, and a powerful Holland-backed adhesive. There's nothing better for sealing out dust and fumes, absorbing shock, non-skid surfacing, etc. Assembly work goes quicker and easier when you use tough and versatile Spring-Cork.

Four thicknesses: 1/32", 1/16", 3/32", 1/8". Widths: 3/16" to 36". Available as a continuous tape, or as short lengths on continuous Holland-cloth backing. Makes excellent gaskets. Write for samples, full facts.

SPRING PACKING CORPORATION
332 South Michigan Ave., Chicago 4, Ill.

▲ For more details circle NED-861 G3 on enclosed inquiry slip ▲

DILLON Dynamometer checking torque of electric motor in simple bench test setup.

COMPACT

Fit into limited space measuring only 8¼x6¼x3". Weigh 8 lbs. 4 oz. Large, easy to read dial with maximum indicator hand.

EASY TO USE

Not injured by accidental overload. Reads direct in lbs. 13 capacities from 0-500 lbs. up to 0-100,000 lbs. Including max. pointer and shackles.

DILLON TRACTION DYNAMOMETER

Calibrated on Certified Laboratory equipment. Highest quality workmanship and materials throughout.

COUNTLESS USES

Tests tensile strength of materials, indicates torque, static loads, tension in wire, rope, cable, etc. Thousands in use. Priced LOW. WRITE FOR LITERATURE AND FREE TENSILE STRENGTH COMPUTER.

W.C. DILLON & CO., Inc.

14620NE KESWICK ST., VAN NUYS, CALIF. (Suburb of Los Angeles)

▲ For more details circle NED-862 G3 on enclosed inquiry slip ▲

Here's the smart angle that helps you save expense of power truck use. Let the Barrett EX Pallet Truck handle short hauls, load spotting, general pallet movement—all at lower cost. Fork types for single or double-faced pallets; also platform types...2500, 4000, 6000 lbs. capacity. Hydraulic Lift—4". Frame widths—25" and 27". Investigate Barrett before you invest.

JUST OFF THE PRESS—New 100 page catalog on the complete Barrett line of material handling equipment. Write for copy.

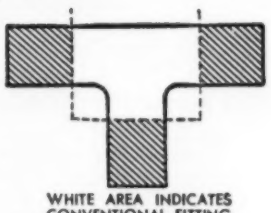
BARRETT-CRAVENS COMPANY
4623 S. Western Blvd., Chicago 9, Illinois
Representatives in all Principal Cities
Canadian Licensee: S. A. Armstrong, Ltd., Toronto, Canada

BARRETT
One man does more than 3 or 4...with a Barrett

▲ For more details circle NED-863 G3 on enclosed inquiry slip ▲

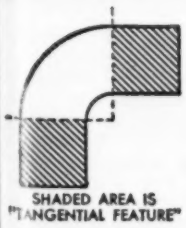
How the *Speedline* "TANGENTIAL FEATURE" cuts stainless piping costs

Now you can save up to 50% on corrosion-resistant lines by using light wall stainless pipe and versatile *Speedline* Fittings.



WHITE AREA INDICATES CONVENTIONAL FITTING

The added straight section of corrosion-resistant *Speedline* Fittings permits attaching unions or flanges without fouling... reduces number of welds required... simplifies installation... eliminates angle joints.



SHADED AREA IS "TANGENTIAL FEATURE"

SEND FOR LATEST INFORMATION

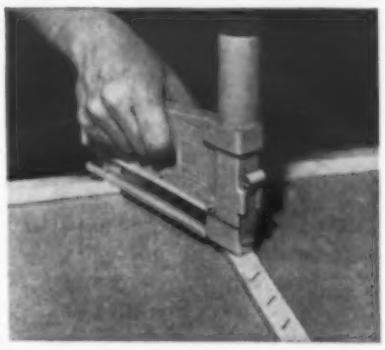
Write a note on your company letterhead to get the complete story on the many cost-saving advantages of the *Speedline* System for process piping.

***Speedline* distributors are located in principal cities from coast to coast**

HORACE T. POTTS CO. *Since 1815*
532 Erie Avenue, Philadelphia 34, Pa.

▲ For more details circle NED-864 G3 on enclosed inquiry slip ▲

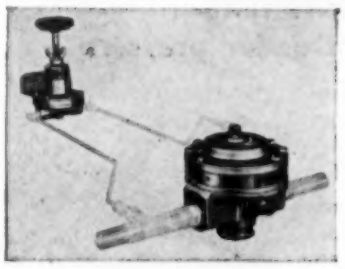
AIR TACKER
more than 200 staples a minute



Operating evenly on 40 to 80-psi air pressures, the bumper trip drive type Heller stapler will drive more than 200 staples a minute. Double bars of staples from 5/32 to 13/16-in. long and in a variety of finishes can be loaded from the front of the unit. A spring-loaded gate makes for easy access without tools. The unit is balanced for ease of handling and nosed for sure driving. Made by **Heller Co.**, 2153-E Superior Ave., Cleveland 14, O.

▲ For more details circle NED-865 G3 on enclosed inquiry slip ▲

AIR PRESSURE REGULATOR
unit is pilot controlled



Air can be precisely controlled in a range from 2 to 120 psi by this pilot controlled air pressure regulator which will deliver more than 200 cfm. It can be placed where it will be most effective, while the separate pilot control regulator can be installed at any convenient location. Regulated air pressure is used to control delivered air pressure. It is available in ½, ¾ and 1-in. sizes. Made by **C. A. Norgren Co.**, 3405 S. Elati St., Englewood, Colo.

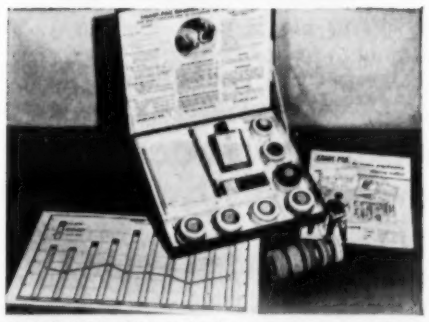
▲ For more details circle NED-866 G3 on enclosed inquiry slip ▲

FIRE EXTINGUISHER
self-contained unit is automatic

Compact and completely self-contained, Firetox extinguisher automatically goes into action when temperature rises to 165° F. A solder fuse melts, and the carbon tetrachloride nontoxic extinguishing agent is released. The unit is hung from the ceiling from a bracket. It contains 2 quarts of carbon tetrachloride and protects a confined area of 10 x 12-ft. It is UL approved. Made by **Standard Safety Products Co.**, Dept. NED, P. O. Box 2111, Lansing 11, Mich.

▲ For more details circle NED-867 G3 on enclosed inquiry slip ▲

TAKE THE CHORE OUT OF CHARTING use CHART-PAK



The CHART-PAK Method is the easy way to make attractive informative charts right in your office. No hand drawing is necessary. Additions and revisions are easily and quickly made.

This method utilizes prefabricated "draftsman drawn" components—self-adhering tapes, a plastic board and accessories.

With the new graphic kit you can have a wide assortment of patterns for making graphic charts. It can be your introduction to more and better charting.

CHART-PAK also provides complete materials for organization charts and office layouts.

Write for free descriptive bulletins 443

ATTACH TO YOUR LETTERHEAD

Please send me full information about the CHART-PAK Method for:

☐ Bar and Curve Line Charts ☐ Organization Charts
☐ Pictographs ☐ Office Layouts

104-I

CHART-PAK INC.
104-I Lincoln Ave., Stamford, Conn.

▲ For more details circle NED-868 G3 on enclosed inquiry slip ▲

Try this team for lower costs

Push-button brushing methods do jobs *better* and many times faster than by hand. For example: Machine-powered Osborn Brushes are deburring parts 4 to 10 times as fast as hand methods. They are giving similar mass production benefits in cleaning and finishing operations of all kinds. Results are of uniform high quality. Rejects are practically nil. Ask to have an Osborn Brushing Analyst study your operations to suggest improvements with the latest Osborn power brushing techniques. Call or write *The Osborn Manufacturing Company, Dept. Z-7, 5401 Hamilton Avenue, Cleveland 14, Ohio.*

Osborn Brushes

OSBORN POWER, MAINTENANCE AND PAINT BRUSHES AND FOUNDRY MOLDING MACHINES

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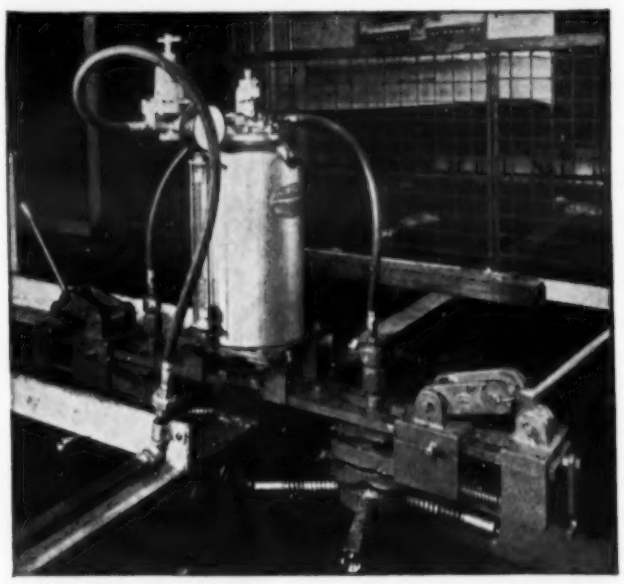
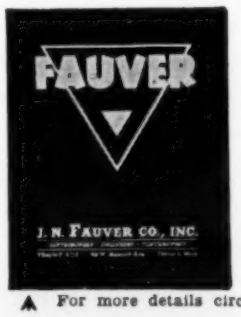


Here's How to Lubricate "Skyhooks"

Close-up of an installation in one of our great electric refrigeration plants — lubricant is released only when fitting and gun are in alignment.

"Go hang it on a skyhook" undoubtedly inspired the overhead conveyor, and while they have been a great boon to production and the saving of floor space, they do pose a very specialized problem of lubrication. . . . Not only must there be adequate lubrication for a wide range of temperatures, but it should also be a controlled supply, to avoid the hazard of grease from overhead. Fauver Automatic Conveyor Grease Lubricators meet all of the problems accompanying the lubrication of "Skyhooks" . . . . Send for complete information regarding this automatic, positive lubrication for your conveyors.

FAUVER Catalogue literature also includes a twenty page section relative to Hydraulic Hose Assemblies and Fittings; data regarding Bullseye Coolant Spouts etc., a request will bring any or all of this information.



J. N. FAUVER COMPANY, INC.
51 WEST HANCOCK, DETROIT 1
OFFICES...FLINT, GRAND RAPIDS
BRANCH...DAYTON, OHIO

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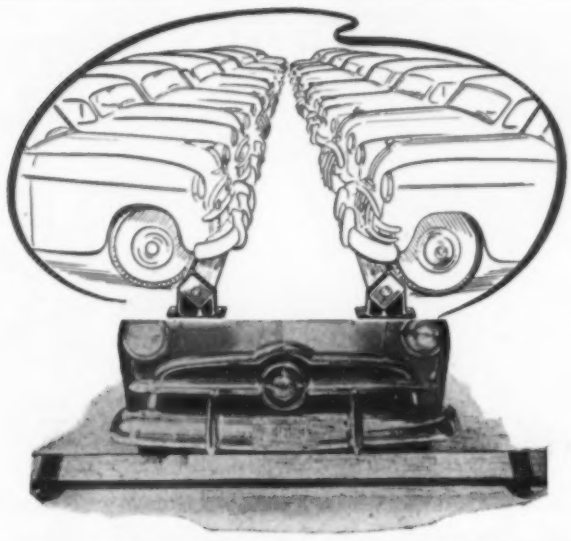


SALIENT FEATURES OF HAR-BAR BARRIERS

1. High enough to stop your car.
2. Low enough to clear your bumper guards.
3. Barrier is above ground — no drainage problem.
4. Barrier is above ground — no rotting of wood.
5. Automatically spaces your cars.
6. Follows contour of your ground.
7. Easily installed — just line up and drive the anchor pins.
8. Easily moved — just pull the anchor pins.
9. Easy to clean under.
10. Easy to maintain.
11. Installed on any kind of surface — black top, cement, macadam, gravel or cinders.
12. It really dresses up your parking lot.
13. You always stop against your tire — no shock.
14. Castings are non-rusting aluminum alloy.

Send us a plot plan of your parking lot—we do the engineering free.

HARRIS-BARRIER INC. 5407 N. PENNSYLVANIA STREET INDIANAPOLIS 5 - INDIANA

▲ For more details circle NED-871 G3 on enclosed inquiry slip ▲

SLASH PRODUCTION COSTS!
and SAVE MATERIAL
WITH RELIANCE SNAP RINGS

AVAILABLE IN VARIOUS CROSS SECTIONS OR END CUTS

SEND TODAY FOR FREE ENGINEERING BULLETIN 4K 3

RELIANCE DIVISION
EATON MANUFACTURING COMPANY
OFFICES AND PLANTS • MASSILLON, OHIO
SALES OFFICES:
NEW YORK • CLEVELAND • DETROIT • CHICAGO
ST. LOUIS • SAN FRANCISCO • MONTREAL

509 Charles Ave., SE Massillon, Ohio

▲ For more details circle NED-872 G3 on enclosed inquiry slip ▲

7½ HP

FOR THE BIG CLEANING JOBS IN INDUSTRY

This is the new heavy duty Spencer Portable Vacuum cleaner, reduced in height so that it will go through any factory door or onto most elevators. Its 7½ HP will supply more than enough vacuum power for two operators working at once. The dirt capacity is large—removable can rolls on casters. It will pick up heavy metals, reclaim foundry sand, remove hot materials and clean the largest factory areas in record time. Smaller machines for office and normal industrial service. Ask for Bulletin No. 102 and 112.

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT
SPENCER HARTFORD
466-M

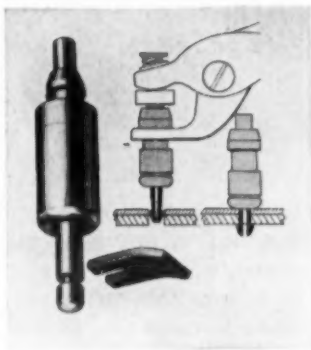
▲ For more details circle NED-873 G3 on enclosed inquiry slip ▲

AUTOMATIC DRILL UNIT with constant lubricating oil bath

Self-contained automatic drill unit is designed so that all moving parts enclosed in a sealed unit receive a constant bath of lubricating oil. Redesigned unit has a ball bearing motor intended for intermittent duty. It has automatic forward and reverse movement of the drill spindle and can be mounted at any angle or plane. When incorporated in a special machine, units will drill several holes in a work piece in one operation in a variety of directions. All drills can be simultaneously operated from a single start button or wired to operate in conjunction with a rotary index table. Capacities available are from No. 50 to 5/16-in. diameter drills. Made by **Simplex Tool Engineering Co.**, 2542 Park Ave., Detroit 1, Mich.

▲ For more details circle NED-874 G3 on enclosed inquiry slip ▲

SHEET METAL FASTENERS align and hold under pressure



Metal or hard surface parts containing drilled or punched holes can be temporarily held together in alignment and under pressure by Wedgelock quick-acting sheet metal fasteners. Combined materials as much as 4 in. thick can be held in place during drilling, riveting, fabrication and assembly. Application is from one side. Both spring-actuated and hand-operated wing nut types are made in a variety of sizes and capacities for reuse. Made by **Wedgelock Co.**, 5446 Satsuma Ave., North Hollywood, Calif.

▲ For more details circle NED-875 G3 on enclosed inquiry slip ▲

WATERPROOF TOGGLE SWITCH functions in —65° to 165° F

In addition to being waterproof, this heavy-duty toggle switch is dust-tight; quickly and easily installed; will function in temperatures from −65° to 165° F; and withstands shock, vibration and salt spray. Switch mechanism is encased in rubber compound, and rubber boot acts as seal around toggle and between mounting plate and switch itself. Continuous rating is 175 amp at 15 or 30 v dc or 125 v ac. Maximum inrush capacity on any type load is 500 amp. Switch can have single-pole single-throw, double-pole single-throw and single-pole double-throw arrangement. Made by **Riverside Mfg. & Electrical Supply Co.**, 10228 Michigan Ave., Dearborn, Mich.

▲ For more details circle NED-876 G3 on enclosed inquiry slip ▲

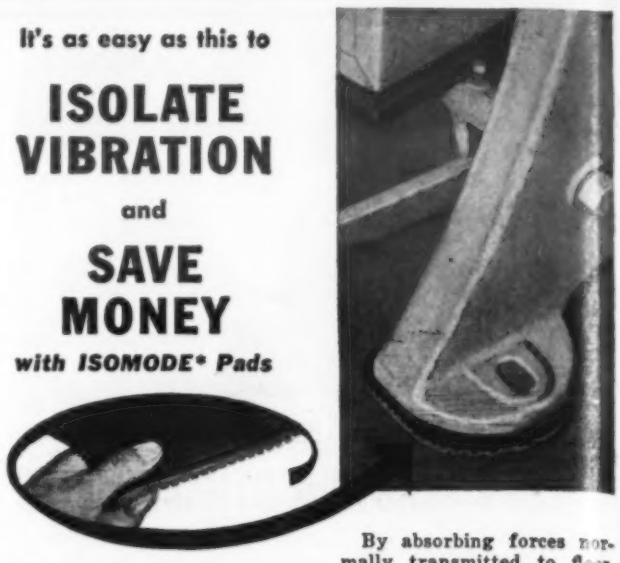
ROLLER CHAIN SPROCKETS have universal locking principle

Available in a wide range for most industrial applications, Jiffy roller chain drive sprockets incorporate a taper-lock bushing. Neither reboring of sprockets to fit shafts, nor turning of shafts to get a tight fit is necessary. Quickly replaceable keyed bushings grip both sprockets and shaft with the firmness of a shrink fit. Sprockets can be removed without difficulty through the built-in "taper-breaking" feature of the bushings, which can be used over and over again. Sprockets are of flush design, occupying no more space on the shaft than standard types. Made by **Union Chain & Mfg. Co.**, 111 Emmons St., Sandusky, O.

▲ For more details circle NED-877 G3 on enclosed inquiry slip ▲

It's as easy as this to

ISOLATE VIBRATION and SAVE MONEY with ISOMODE* Pads



Here's the durable mounting to absorb shock...reduce noise ...cut your maintenance costs. In hundreds of installations, the Isomode Pad has proved to be not only one of the most economical mounts, but also one which does a superior job of isolating vibration.

By absorbing forces normally transmitted to floor, Isomode Pads reduce building damage and undue deterioration of machinery. No bolting in most cases.

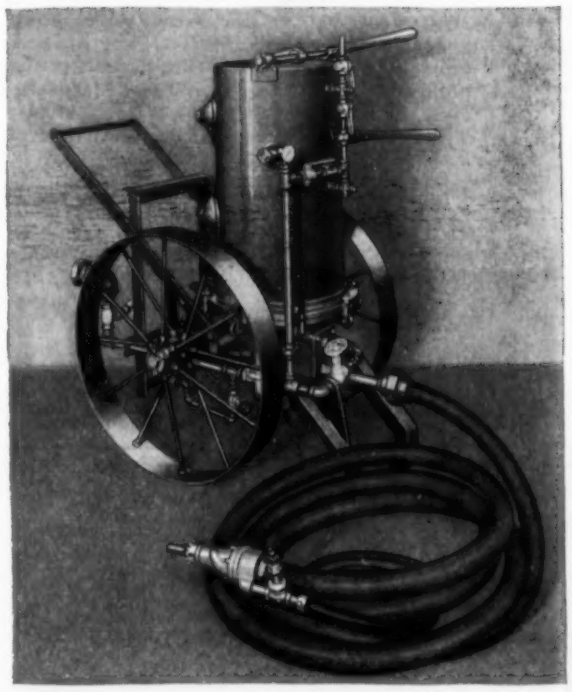
Made of oil, age- and water-resistant Du Pont Neoprene. Write for details—discover their surprisingly low cost.

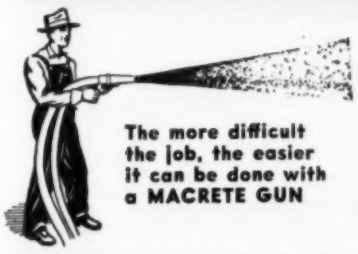
*Trade Mark Reg. U.S. Pat. Off.

THE MB MANUFACTURING COMPANY, INC.
1066 State St., New Haven 11, Conn.

▲ For more details circle NED-878 G3 on enclosed inquiry slip ▲

For Cement Work
YOU CAN DO A BETTER JOB WITH A
MACRETE Gun





The more difficult the job, the easier it can be done with a MACRETE GUN

The MACRETE GUN provides a quick and effective method of resurfacing concrete structures through the application of a mixture of hydrated sand and cement by compressed air. Compared with hand application, the MACRETE GUN is not only faster and more economical but gives a higher quality coating. Tensile strength is 10% to 200% greater, and compression strength is even more marked—up to 700% greater and with fewer voids. Adhesion is increased at least 25%. The unit is easy to clean and comes complete with all fittings and accessories—ready to use.

For descriptive literature write Dept. N

The MACLEOD Company
BOX 452, SHARONVILLE, OHIO ESTABLISHED 1897

▲ For more details circle NED-879 G3 on enclosed inquiry slip ▲

Moving or Storing is Rapid, Convenient and Inexpensive with

IRONBOUND SEMI-LIVE SKID PLATFORMS

Ruggedly built with capacities up to 2500 lbs. These units are quickly made mobile with the use of low cost lift jacks . . . One of the methods that Ironbound engineers use to increase production and conserve space at low cost.

SEMI-LIVE SKID WITH BOX TOP

. . . permanently attached or removable. Also available with many other superstructures to "Short-Haul" your products thru production or into storage. Useful in hundreds of spots in every plant.

THE IRONBOUND "SAFETY-SKID" WITH ROUND CORNERS

Ironbound construction assures long hard use with complete safety to product and operator. Still the time proven method for handling of materials efficiently and economically.

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
55 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

For more details circle NED-880 G3 on enclosed inquiry slip

IT'S A CINCH!
TO SHARPEN SMALL DRILLS

Black Diamond
PRECISION
DRILL GRINDER

- ✓ ONLY drill grinder that mechanically positions drill for grinding!
- ✓ ONLY drill grinder that grinds BOTH LIPS IN ONE OPERATION!
- ✓ ANYONE can grind a drill expertly on a Black Diamond No guesswork—just position the drill, grind and you have a perfect point!

BLACK DIAMOND SAW AND MACHINE WORKS, INC.
NATICK, MASSACHUSETTS

For more details circle NED-881 G3 on enclosed inquiry slip

you save 50% in TANK HEATING and COOLING with PLATECOIL
(REPLACE PIPE COILS)

- ★ You SAVE 50% in tank SPACE
- ★ You SAVE up to 50% in initial COST
- ★ You have 50% LESS WEIGHT to handle
- ★ You SAVE 50% in maintenance LABOR as plates are changed from outside the tank without dumping solution

. . . besides all these you get faster heating or cooling. Take advantage of the engineering assistance offered by Kold-Hold to help you with your heat transfer problems.

Send for complete technical manual and descriptive Bulletin No. P57.

PLATECOIL Division
Tranter Mfg. inc.
LANSING 4, MICHIGAN

For more details circle NED-882 G3 on enclosed inquiry slip

PRESSURE SWITCH
safety type for 3-3000 psi range

Totally enclosed and explosion resistant, series 100 pressure switch is suitable for hydraulic and pneumatic use between 3 and 3000 psi. It can be accurately set for any pressure in this range. Unit is available either in die cast aluminum or stainless steel, with panel or bracket mountings and weighs approximately 2 lb. Both alternating and direct current circuit arrangements are available. Made by **Alloy Bellows Engineering Co.**, Switch Div., 18125 Roseland Rd., Cleveland 12, O.

For more details circle NED-883 G3 on enclosed inquiry slip

PORTABLE COMMUNICATION SET
plugs into regular lighting circuit

All that is necessary to operate the Port-A-Phone is to plug it into lighting circuit to talk to any other station operating on same circuit. It uses alternating or direct current, weighs only 4½ lb, and is readily portable. Standard controls are talk, listen and constant-transmit switch, with separate on-off switch. Adjustable Hush-O-Matic noise eliminator makes units noiseless during stand-by periods. List price of two stations is $84.50. Made by **Feiler Engineering & Mfg. Co.**, 8028 N. Monticello Ave., Skokie, Ill.

For more details circle NED-884 G3 on enclosed inquiry slip

ELECTRIC CHAIN SAW
chain travels at 1400 fpm

Heavy lumber and timber cutting of up to 14 in. on one cut is possible with model 125 portable electric chain saw. Chain is chrome plated, chipper type that travels at 1400 fpm. Pushbutton oiler lubricates chain while in operation. Spade-type rear handle and wrap-around universal handle facilitate easy handling of 16-lb unit in any position, on any cut. Other features are aluminum alloy housing, ball and needle bearings, safety trigger switch and steel helical gears. Standard voltage is 115, while 220-v units can be obtained. Saw operates from 1500-w generator. Made by **SKIL Corp.**, 5027 Elston Ave., Chicago 30, Ill.

For more details circle NED-885 G3 on enclosed inquiry slip

BENDING MACHINE
for tubing, light angles, bars

Use of an automatic clamp and needle bearings on the head mount give the Bend-Ex air-powered bending machine an output of up to 1000 bends per hour with 1⅛-in. 16-gage steel tubing. Also adaptable for bending other types of tubing, light angles, channels and solid bars, the bender is set up easily for various jobs by varying the size of the dies and jaws. As many as ten bends are possible on a ½ to 1¾-in. diameter single tube 10 ft long. Tube is slid over a mandrel, locked into position at a predetermined stop and 80-lb bending pressure applied by actuating a hand or foot air valve. Special models have been built up to 14 ft long. Made by **Paul Machine Tool & Die Works**, Dept. S, 46th to Kedzie, Chicago 32, Ill.

For more details circle NED-886 G3 on enclosed inquiry slip

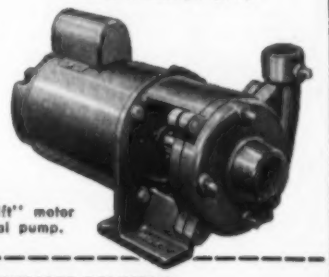
New Myers "Centri-Thrift"
General Purpose Pump

An addition to present line of centrifugal pumps

Special low cost, centrifugal pump for bottle washers, booster service, air conditioners, boiler feed service, etc. Myers quality features: Removable, replaceable bronze wearing ring; separate stainless steel pump shaft extended through open bracket for quick inspection and accessability. Bronze impeller is locked to shaft.

Myers "Centri-Thrift" V-belt driven centrifugal pump.

Capacity to 50 gallons per minute. Heads up to 92 feet. Easily handles 180° water. Suction opening 1¼" pipe; discharge opening 1" pipe and can be rotated in any of four positions



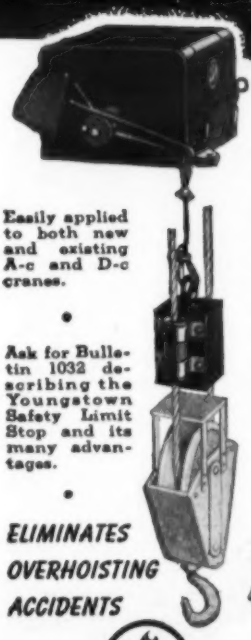
Myers "Centri-Thrift" motor mounted centrifugal pump.

MYERS

IMMEDIATE DELIVERY
Write for complete information and prices.
THE F. E. MYERS & BRO. CO.
243 Fourth St., Ashland, Ohio

For more details circle NED-887 G3 on enclosed inquiry slip

Safety LIMIT STOPS
for A-c and D-c Cranes by EC&M



Easily applied to both new and existing A-c and D-c cranes.

Ask for Bulletin 1032 describing the Youngstown Safety Limit Stop and its many advantages.

Not only disconnects the motor from the line, but stops the motor quickly. On D-c cranes, where high hoisting speeds prevail, dynamic braking aids in bringing the hook block to rest. These Limit Stops are operated directly by the hook block, hence stretching of the hoisting cables does not affect the tripping point.

By removing the fear of an overhoisting accident, the YOUNGSTOWN Limit Stop enables the crane operator to do better work.

ELIMINATES OVERHOISTING ACCIDENTS

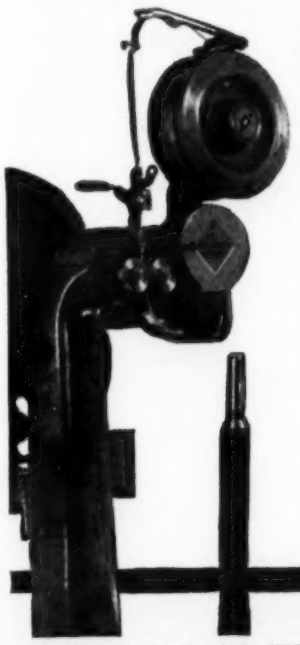
High interrupting capacity—Two normally open and two normally closed contacts, mechanically interlocked and with wide, vertical opening, always assure positive interruption of the hoist motor current.

THE ELECTRIC CONTROLLER & MFG. CO.
2698 EAST 79TH STREET • CLEVELAND 4, OHIO

For more details circle NED-888 G3 on enclosed inquiry slip

Add an Acme Steel 25-pound coil holder
to your present wire stitching equipment

Stitch 2½ times longer without stopping



The rugged new Acme Steel 25-pound coil holder means less down time on your wire stitching operations, both because it holds 2½ times as much wire as the conventional 10-pound coil holder, and because it's easier and faster to load. Features are tangle-free wire feed and positive shoe-type brake. For details, write Acme Steel Products Division, Dept. NED 73, Acme Steel Company, 2840 Archer Avenue, Chicago 8, Illinois.

STITCH IT... STRAP IT... SHIP IT... SAFELY!

ACME STEEL

For more details circle NED-889 G3 on enclosed inquiry slip

▲ For more details circle NED-890 G3 on enclosed inquiry slip ▲

Air Operated ROTARY WORK FEEDER

Deftly holds and delivers small parts to drill, tap, swage, stake, etc. Stations accurate to .002". Guaranteed against over-travel or "skipping". Indexes as slow or fast as you like, up to 10,000 per hour. Compact and sturdy, easy to tool and hook up.

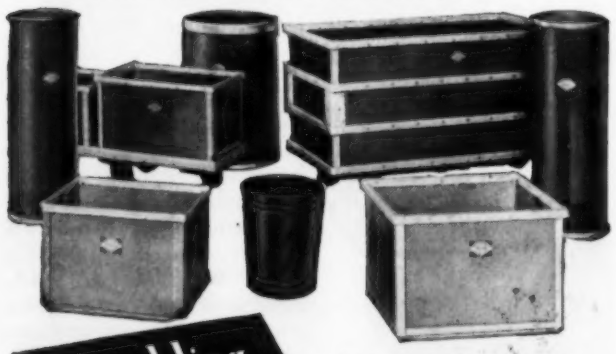
Standard dial plate 10"; available in 12". For a new job, simply tool up a new dial. Readily combines with "MEAD-MATIC" Timer, Air Hammer, Air Press, Drill presses, etc. — to make almost completely automatic machine — operator merely loads. Write for full details.

MEAD SPECIALTIES COMPANY
4114 NO. KNOX AVE., DEPT. N-73-A, CHICAGO 41, ILL.

▲ For more details circle NED-891 G3 on enclosed inquiry slip ▲

SEND FOR FREE CATALOG ON SPAULDING FIBRE RECEPTACLES

A complete line of tough, lightweight, shock-proof containers for storage and materials handling. Resistant to moisture, impact and abrasion. Won't splinter or corrode.



Spaulding

Boxes, barrels, trays, trucks in all sizes and weights.

FIBRE COMPANY, INC., Tonawanda, N. Y.

Please send me by return mail your catalog on Spaulding's complete line of Fibre receptacles.

Name _____

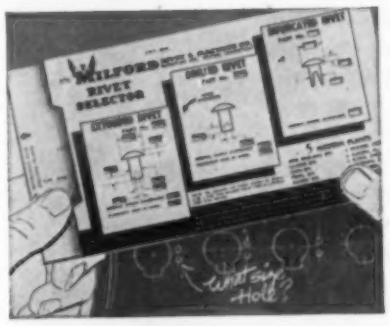
Firm _____

Address _____

City _____ Zone _____ State _____

▲ For more details circle NED-892 G3 on enclosed inquiry slip ▲

FASTENER SELECTOR covers various types of rivets

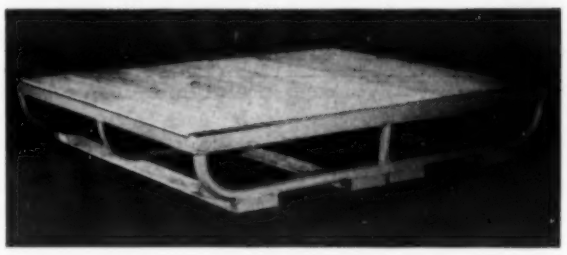


Tabulated information for extruded and drilled tubular rivets, bifurcated (split) rivets and cutlery rivets is quickly selected with this 8½ x 5½-in. slide-chart calculator. Its use enables manufacturers of assemblies to select the correct fastener for each job. Data includes catalog numbers, dimensions, clinch allowances and clearance holes in work. Available from **Milford Rivet & Machine Co.**, 929 Bridgeport Ave., Milford, Conn.

▲ For more details circle NED-893 G3 on enclosed inquiry slip ▲

STEEL-HARDWOOD PALLET assembled without use of fasteners

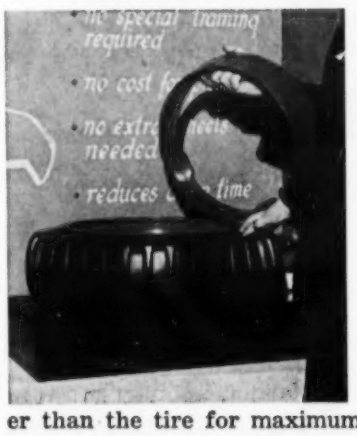
Consisting of three tubular steel runners welded to deck-retaining angle-iron frame which protects the hardwood deck, Econoweld 555 pallets are durable



and long-lasting. Hardwood deck boards are nested in the retaining frame and clamped in position by a keyboard spring lock which permits ready replacement. Bottom boards are individually secured by steel containers welded to the skid runners. Made by **Econoweld Corp.**, Dept. N, 1805 Webster St., Dayton, O.

▲ For more details circle NED-894 G3 on enclosed inquiry slip ▲

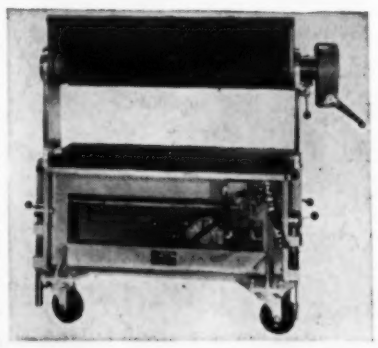
SOLID INDUSTRIAL TIRE demountable type installed in field



Three sizes of demountable Innacush solid industrial tires are available for field changeover purposes, intended to replace ten sizes of industrial pressed-on and pneumatic tires on materials handling equipment. Tire is designed for a split wheel that is tapered to 12½ degrees and slightly larger than the tire for maximum compression when the wheel is bolted together. It can be changed in 10 minutes, with no extra wheels required. Bead wires in the hard rubber base prevent tire stretch or slippage. Made by **United States Rubber Co.**, 1207 Rockefeller Center, New York 20, N. Y.

▲ For more details circle NED-895 G3 on enclosed inquiry slip ▲

MOTORIZED LIFT designed for Hansford die handler



The Hansford die handler, a portable device for taking apart heavy dies, can now be equipped with a motorized lift attachment. Mounting holes for the attachment are incorporated in all standard models. The attachment drives the upper platen of the die handler at 16.3 in. per minute. Fine adjustments are made by the hand crank, which as a safety precaution must be disengaged before connecting the motorized lift. The attachment operates either on a 110-v ac supply, or can be furnished in accordance with JIC standards with a contactor box. In this case the motor operates on 440 v 3-phase and the controls on 110 v. Made by **Hansford Mfg. Corp.**, 1237 University Ave., Rochester 7, N. Y.

▲ For more details circle NED-896 G3 on enclosed inquiry slip ▲

IT'S THE WAY **Heat is Distributed** THAT DOES IT . . .

Even, gentle heat *all over* . . . with low BTUs per sq. in. . . . on every side of the tank wall, and bottom, too . . . make Sta-Warm heating tanks the standard of comparison for melting compounds and soft metals.

There is no better way *than the Sta-Warm way* to avoid burning (carbonizing) critical materials. Likewise, the broad distribution of Sta-Warm heat assures *complete* melting of all the tank contents. No cold lumps remain unheated to clog the drain or outlet.

The Sta-Warm basic design is *so flexible* that you can have just the kind of unit your job requires to operate most efficiently.

You name your problem. Let Sta-Warm make recommendations by return mail.

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO

▲ For more details circle NED-897 G3 on enclosed inquiry slip ▲

MEASURE RPM

as low as 2/100 of 1 RPM
as high as 100,000 RPM
with **Improved JAQUET SPEED INDICATOR**

a Chronometric Tachometer of highest accuracy and dependability

4 MODELS
0-200 RPM
0-2,000 RPM
0-20,000 RPM
0-100,000 RPM
measuring also FPM WITH WHEEL TIP

SEND FOR BULLETIN 735

HERMAN H. STICHT CO., INC. 27 PARK PLACE, NEW YORK 7, N. Y.
Tachometer Headquarters

▲ For more details circle NED-898 G3 on enclosed inquiry slip ▲

SOME FELLAS DON'T KNOW LESLIE

▲ For more details circle NED-899 G3 on enclosed inquiry slip ▲

Simplify any work holding operations with ClampAirs

Whether you want a bulldog grip or a gentle one, you'll find the answer in Schrader ClampAir cylinders. ClampAirs eliminate time-consuming hand clamping and rejects caused by an improper holding force.

Write for more information on how the versatile ClampAir can be used in your plant. Full line catalog gives all the data on Schrader ClampAirs as well as other numerous Schrader Air Control Products.

A. SCHRADER'S SON

Division of Scovill Manufacturing Company, Incorporated

459 Vanderbilt Ave. Dept E-38 Brooklyn 38, N. Y.

For more details circle **NED-900 G3** on enclosed inquiry slip

Engineered for use on transformer vaults, weatherproof rooms, marine bulkheads, test rooms and similar applications, this new insulated door-and-frame unit is available in a range of sizes to meet every individual requirement. It can be furnished with round or square corners on door or frame.

Positive seal is assured by special neoprene rubber gasketing which is readily adjusted or replaced. Standard Overbeke-Kain closures are all-welded steel construction. Stainless steel, aluminum or other non-corrosive materials are also available. Hardware is supplied to user's specifications.

Write for Bulletin No. 784 for complete information.

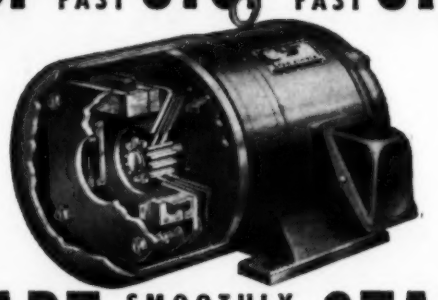
the Overbeke-Kain company

906-OK

20979 AURORA RD....BEDFORD, OHIO

For more details circle **NED-901 G3** on enclosed inquiry slip

STOP FAST FAST STOP FAST FAST STOP



START SMOOTHLY SMOOTHLY START

with Star-Kimble Brakemotors

Split-second stops with Star-Kimble Brakemotors—because of extra-large brakelining area. Smooth starts—because of instantaneous brake release. Rapid reversals without plugging. Positive holding of loads. *All* through hundreds of thousands of operations—with little or no attention. Every Star-Kimble Brakemotor is a compact, integral unit—one manufacturer—one responsibility.

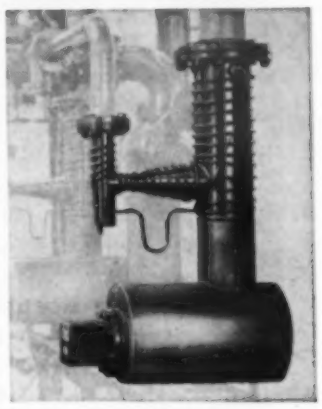
For information on design and service features, write for Bulletin B-501-A

STAR-KIMBLE

MOTOR DIVISION OF
Miehle Printing Press and Mfg. Co.
214 Bloomfield Avenue Bloomfield, N. J.

For more details circle **NED-902 G3** on enclosed inquiry slip

HIGH VACUUM PUMP
combines oil diffusion and ejection



Having a high pumping speed in the pressure range of 0.001 to 0.005-mm Hg, the KS-600 vacuum pump is particularly useful in vacuum metallurgical processing systems. It is also adaptable to such other high vacuum applications as dehydration and vacuum metallization. It will remove air at a rate of 1200 cfm in the pressure region from 0.02 to 0.0004-mm Hg. Combining an oil diffusion jet and single stage ejector nozzle in one compact casing, it can be successfully applied to systems containing dust and other impurities. Made by **Consolidated Vacuum Corp.**, 735 Ridge Rd. W., Rochester 3, N. Y.

For more details circle **NED-903 G3** on enclosed inquiry slip

BALL BEARING SELECTOR
dials to select correct bearing size

Made in convenient size, the circular sliding scale of this ball bearing selector converts such factors as load, speed and life for any projected application into terms of rated bearing capacities. In effect, it selects the proper bearing size for the application under consideration without pencil and paper calculations. The reverse side of the calculator illustrates a line of standard ball thrust bearing types with condensed specifications of each. Selector is available free from **Aetna Ball & Roller Bearing Co.**, 4601 Schubert Ave., Chicago 39, Ill.

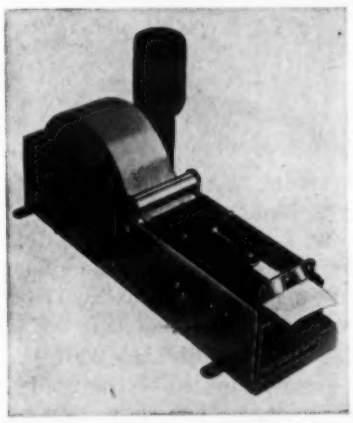
For more details circle **NED-904 G3** on enclosed inquiry slip

SUBMERSIBLE SUMP PUMP
capacity is 3300 gph at 10-ft head

Practical for use in sumps, underground vaults and in transferring liquids, the 109 sump pump operates completely immersed in liquid. Motor, pump and switch are absolutely watertight. Pump will fit into a 12-in. cube and has capacity of 3300 gph at 10-ft head. Entire motor is enclosed in heavy bronze or cast iron case and runs submerged in insulating oil. Redesigned liquid level control switch (optional) operates on principle of water rising to trap air in switch skirt. Compressed air flexes diaphragm, turning on pump. Pump pressure flexes second diaphragm to hold switch "on" as long as water remains to be pumped. Made by **Kenco, Inc.**, 1125 N. Ridge Rd., Lorain, O.

For more details circle **NED-905 G3** on enclosed inquiry slip

TAPE DISPENSER
for reinforced gummed tapes



Hard-to-cut gummed reinforced tapes can be cut by the pull and tear type Handy dispenser. A sliding rubber button delivers the tape which is untouched by fingers until it is torn from the roll. Large visible water reservoir is incorporated. When a strip of tape is pulled up for tearing from the roll, an automatic brake locks the tape in place. Made by **Ideal Stencil Machine Co.**, Dept. NED, 134 Iowa Ave., Belleville, Ill.

For more details circle **NED-906 G3** on enclosed inquiry slip

Electronic Temperature Control

...with Alnor Accuracy

Alnor, pioneer in the field of electronic temperature instruments, brings you automatic, precise temperature control for heat-treating furnaces, bake ovens—in fact, for any heating device whether electrically heated or fuel fired. It's the Alnor Temperature Controller—simple in design and operation, its accuracy proved on thousands of installations in many industries.

Easily and quickly installed, this instrument is ready to give you accurate controller service on new or existing heating equipment temperature—you merely set the pointer at the desired temperature and forget your indicating and controlling problems. But find out for yourself how Alnor accuracy and dependability can serve you in controller service; write today for complete details on the Alnor Temperature Controller . . . Alnor accuracy at a price you can afford. Illinois Testing Laboratories, Inc., Room 529, 420 N. La Salle Street, Chicago 10, Illinois.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

For more details circle **NED-907 G3** on enclosed inquiry slip

THERE'S A STURDY

BURKE

FOR EVERY PURPOSE

Thousands of efficient, low cost Burke Bench Millers are proving their superiority in Tool, Development and School Shops and a wide variety of mass production operations.

Send for complete data on models attachments, accessories and suggestions for putting Burke's to work for your profit.

THE U. S.-BURKE MACHINE TOOL DIV.

Brotherton Road 2, Cincinnati 27, Ohio

For more details circle **NED-908 G3** on enclosed inquiry slip

BROWNHOIST BUILDS
BETTER BUCKETS
— for less money
DIRECT FROM FACTORY TO YOU

ROPE-REEVE, POWER WHEEL AND LINK TYPE
Write for illustrated catalogue
INDUSTRIAL BROWNHOIST CORPORATION
BAY CITY, MICHIGAN
146

For more details circle NED-909 G3 on enclosed inquiry slip

MODEL 50 Versatile
Low Cost ELECTRONIC
THER-MONIC
INDUCTION HEATING UNIT

BRAZING
SOLDERING
HARDENING
ANNEALING
MELTING

FOR THE PRODUCTION LINE, TOOL ROOM or LABORATORY!

THER-MONIC, pioneer in the field of Induction Heating, offers the only completely contained, electronic generator for continuous production runs with either automatic or hand-feeds, or on small production runs which involve frequent work change-overs. Hundreds already in use; all are acclaimed by owners and operators.

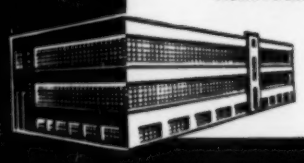
Delivers ready for use—operates on 110V., 60 cycles. Rated in accordance with NEMA standards. Built & certified in accordance with F.C.C. regulations. Unit is similar to our larger sized, high production models. Furnished complete with timer and output transformer. Designed for safe, low voltage work coils.

$985. F.O.B. Factory

Fully guaranteed. Service and sales in principal cities. Write for literature.

Generators available up to 75 KW output.

THER-MONIC INDUCTION HEATING CORP. NEW YORK



INDUCTION HEATING CORPORATION
181 WYTHE AVENUE • BROOKLYN 11, N. Y.
Largest Producers of Electronic Heat Treating Equipment

For more details circle NED-910 G3 on enclosed inquiry slip

FIRE EXTINGUISHERS
1 and 2-qt pressurized models

By merely raising the carrying handle, aiming and pressing a lever, this pressurized fire extinguisher discharges a 30-ft stream for 17 to 25 seconds. Easily removable valve unit used as filler opening reduces possibility of leakage. Teflon gaskets resist temperature extremes, corrosion and solvents. Effective extinguishing action is provided from any angle. Units are offered in 1-qt size with truck and wall brackets and 2-qt size with truck bracket and can be recharged from a small, low-cost nitrogen recharging unit. They bear UL seal and approval. Made by **Buffalo Fire Appliance Corp.**, Dept. D, Dayton 1, O.

For more details circle NED-911 G3 on enclosed inquiry slip

SKID LIFT
keeps materials at working level

Easily handling weights up to 3000 lb, this automatic skid lift keeps the top of the material being handled at working level. Useful in such applications as feeding any type of sheet stock, it eliminates all bending and stooping on the part of the operator. Operator fatigue is reduced to the minimum. The unit is simple to install and maintain. It can be set in the floor to bring the platform flush, or placed directly on the floor. Made by **Southworth Machine Co.**, 31 Warren Ave., Portland, Me.

For more details circle NED-912 G3 on enclosed inquiry slip

SAWING ATTACHMENT
converts drill to thrust-action

Rotary power of any heavy duty electric drill is converted to thrust-action for sawing without use of gears by this cam-action attachment. Each revolution of drill is turned into 7/8-in. stroke. Tool will fast-cut metal, including stainless steel, plaster, nails, Transite, Masonite, lath, plastic or other materials. Universal chuck also allows use of any make of hack or key-hole saw blade. Made of cast aluminum and alloy steel, 3½-lb attachment has adjustable guide handle for work in normally inaccessible spots. Made by **E-Z Way Tool Co.**, Dept. N-6, Barrington, Ill.

For more details circle NED-913 G3 on enclosed inquiry slip

LAB GLASSWARE WASHER
capacity up to 600 pieces an hour

Handling up to 600 pieces an hour, Statormatic Laboratory glassware and bottle washing machine is useful in any industrial application where quantity is a problem. Machine cycle is variable and can be preset to requirements between 1 and 5 minutes. Apart from the manual moving of glassware trays between washing, rinsing and optional drying compartments, operation is automatic. Miscellaneous shapes and sizes of ware can be handled simultaneously, each piece being automatically centered over an individual washing nozzle. Steam coils bring washing temperature up to as high as 200° F, and large capacity tanks permit the use of the recirculating washing solution for one to five days. Made by **Namco Machinery Inc.**, Dept. N, 54 Kosciusko St., Brooklyn 5, N. Y.

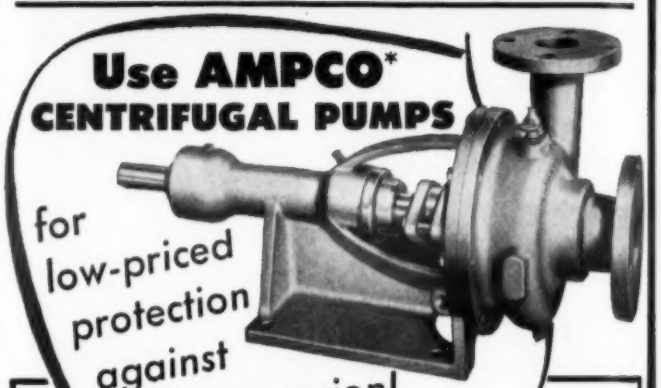
For more details circle NED-914 G3 on enclosed inquiry slip

for Masking

PERMACEL
PRESSURE SENSITIVE
MASKING TAPES
INDUSTRIAL TAPE CORPORATION, NEW BRUNSWICK, N. J.

For more details circle NED-915 G3 on enclosed inquiry slip

Use AMPCO* CENTRIFUGAL PUMPS



for low-priced protection against costly corrosion!

Spare yourself production headaches, shutdowns, constant expense—when pumping acids, caustics, and other corrosives. Use Ampco Centrifugal Pumps, the corrosion-resistant pumps that sell at standard-pump prices.

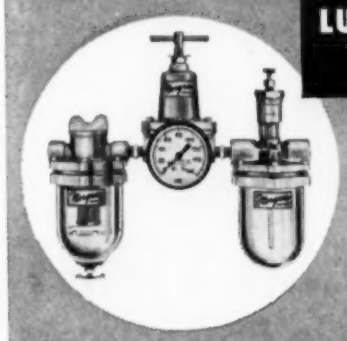
These money-saving units are fabricated throughout of the proper combination of Ampco aluminum bronzes. That's why they have exceptional resistance to corrosion, as well as deformation, cavitation erosion, and wear from abrasive solids in suspension.

You find Ampco Pumps performing dependably and efficiently wherever there's a tough pumping job. They handle hot sulfuric acid, hydrofluoric acid, fatty acids, dyestuffs, caustics, polluted harbor water, and most other corrosive liquids. Available in sizes from fractional flow to 600 gpm — pedestal or close-coupled mounting. Write for more information today. *Reg. U. S. Pat. Off.

AMPCO ®
Ampco Metal, Inc.
Dept. NE-7, Milwaukee 46, Wisconsin
West Coast Plant • Burbank, California
P-7

For more details circle NED-916 G3 on enclosed inquiry slip

compact, efficient
NORGREN LUBRO-CONTROL UNIT



• cleans the air
• regulates air pressure
• supplies oil-fog lubrication

The Norgren Lubro-Control Unit automatically filters grit, pipe scale and moisture from the air, regulates line pressure of up to 400 psi. to desired working pressure and supplies controlled, air-borne oil fog lubrication to all internal parts of equipment reached by air. Ideal units for use in connection with air-operated production machines, air cylinders and air tools on pipe lines from ¼" to 1".

PIONEER AND LEADER IN OIL-FOG LUBRICATION FOR 25 YEARS

Valves
Filters
Regulators
Lubricators
Hose Assemblies

C. A. Norgren CO.
3405 So. Elati St., Englewood, Colorado

For more details circle NED-917 G3 on enclosed inquiry slip

Clean Lustrous OFFICE FLOORS reflect Good Management

Look at your floors. Everyone else does! Give your floors that well-groomed look...and preserve their wearing qualities, too...by keeping them properly cleaned, waxed and polished. Just one HILD Machine with attachments will scrub, wax, polish, buff, sand, grind and steel-wool floors of all kinds. Six models with brush spreads from 11 to 19 inches. Also available with tank on handle. Write for complete information.

Write today for FREE CIRCULAR on FLOOR MAINTENANCE...

HILD FLOOR MACHINE CO.
740 W. Washington Blvd., Dept. NE-7 Chicago 6, Ill.

Also Maintains Factory Floors
The same husky HILD Floor Machine has special attachments for power-scraping bumpy, grease-caked factory floors...and for scrubbing off dangerous grease and oil slicks.

For more details circle NED-918 G3 on enclosed inquiry slip

SUNNEN® HONING

- **SPEEDS Machine Assembly**
- **SIMPLIFIES Field Maintenance**

PROBLEM: Hold close hole tolerance and good surface finish on button-hole machine part, to provide perfect interchangeability for easy assembly of new machines and repair in the field.

MATERIAL: Aluminum Alloy, SAE 26 • HOLE DIAMETER: 11/32"
HOLE LENGTH: 1.0" • STOCK REMOVAL: .0003" to .0005"
FINISH: 16 Micro-inches • TOLERANCE: .3438" to .3442"
MANUFACTURER: Reece Corp., Waltham, Mass.

SOLUTION: Sunnen Model MBB-1290 Honing Machine with Standard K10 type mandrel and honing stone, plus Sunnen Honing Oil.

RESULTS: 110 parts per hour—virtually no rejects. Sunnen Honing has proved the most practical way to manufacture these parts at a cost that is competitive. This method was so successful that Reece has designed many other parts specifically for honing.

You'll find Sunnen Honing Machines economical for job lots or long production runs . . . for everything from de-burring to micro-fitting. They are frequently the solution to production problems that cannot be handled by drilling, reaming, boring, lapping or grinding.

These machines generate geometrically perfect holes with fast stock removal . . . produce a guaranteed accuracy of .0001" or better and surface finish to 2 micro-inches RMS . . . have a diameter range of 1/8" to 2 5/8" . . . require no jigs or fixtures. Average installation costs less than $1,000.

Other Parts Honed at Reece Corp.

743A

Sunnen Honing Machines may be *your* answer, too.

Send for FREE BOOKLET

SUNNEN PRODUCTS COMPANY
7966 Manchester Avenue, St. Louis 17, Missouri
Canadian Factory: Chatham, Ontario

For more details circle NED-919 G3 on enclosed inquiry slip

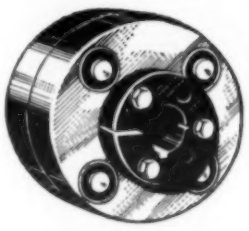
HYDRAULIC GEAR PUMPS capacities from 5.4 to 10 gpm

Shaft design of HC series gear type hydraulic pumps enables these units to be direct, gear or belt driven. Pumps are designed for use with tractor loaders, industrial trucks, machine tools, power steering systems and construction machinery. Capacities of three sizes range from 5.4 to 10 gpm at 1800 rpm and 1000 psi. Units will pump most liquids having a substantial oil base and may be obtained with internal relief valve which permits regulation of pressures between 500 and 1200 psi. Wide selection of porting locations is available. End or side porting is standard. Made by **Webster Electric Co.**, 1900 Clark St., Racine, Wis.

For more details circle NED-920 G3 on enclosed inquiry slip

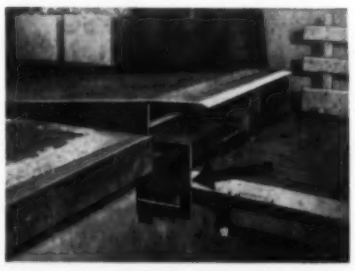
MECHANICAL COUPLING allows angular, parallel misalignment

By unusual application of rubber bushings, this Flexoid Silentbloc mechanical coupling will allow parallel as well as angular misalignment up to 15 degrees with minimum shaft pressure on support bearings. It can readily be taken apart and eliminates lubrication, noise and lost motion. Coupling uses two flanges fitted with encased rubber bushings, with four connecting pins floating freely inside inner sleeve of bushing elements. Angular deflection between plates is provided for by twisting action in the rubber. Couplings are offered in sizes 4B, 6B and 8B with bores of 1¼, 1⅝ and 2 7/16 in. and in ratings of 2, 4 and 8 hp per 100 rpm, respectively. Made by **Flexoid Coupling Co.**, 1540 E. 23rd St., Cleveland 14, O.



For more details circle NED-921 G3 on enclosed inquiry slip

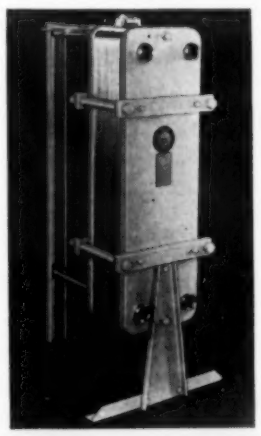
SELF-ADJUSTING DOCKBOARD mechanical unit is easy to install



As the truck backs into the dock, it presses the extended operating lever, shown arrowed in the illustration, and dockboard adjusts itself automatically to truck bed height. The action is mechanical, and installation and maintenance are correspondingly simple. Vertical travel is 24 in.; lip angle is engineered to suit individual requirements; and four ramp surface alternatives are available. Standard width is 6 ft, and capacities are either 10,000 or 20,000-lb roll-over load. Packaged units ready for installation are available. Made by **Dockboards Inc.**, 216 E. Silver Spring Dr., Milwaukee 11, Wis.

For more details circle NED-922 G3 on enclosed inquiry slip

LOW-CAPACITY HEAT EXCHANGER is stainless steel plate type



Continuous heating or cooling of oils, beverages, liquid food and chemical products is function of model SI-30 Superplate Press low capacity heat exchanger. Stamped stainless steel plates have surface of many knobs that create turbulence, providing rapid heat transfer. All product contact surfaces are also stainless steel. Maximum of 30 plates can be used with this press when there are no intermediate terminals, and as many as 19 plates, when an intermediate terminal is required. Exterior surfaces have zinc metallized finish further protected by paint. Length is 3 ft; height, less than 5 ft. Made by **Cherry-Burrell Corp.**, Dept. AS-3, 427 W. Randolph St., Chicago 6, Ill.

For more details circle NED-923 G3 on enclosed inquiry slip

Shredded Paper

IS THE IDEAL PACKING MATERIAL

produce it yourself for . . .

(1) Real dollar & cents savings
(2) Minimum inventories
(3) Substantial space savings
(4) Dependable supply

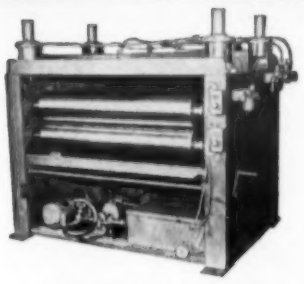
Test a "Silver" paper shredder in your own shop without obligation—Get complete details by writing *today* to:

INDUSTRIAL SHREDDER & CUTTER CO.
107 Mill Street Salem, Ohio

For more details circle NED-924 G3 on enclosed inquiry slip

UNION AUTOMATIC COMPOUND SPREADERS

SAVE *8 WAYS



1 "Die life increased 75%."
2 "Production increased 20%."
3 "Compound saving of 16%."
4 "Rejects reduced 10%."
5 "One helper eliminated."
6 "Paid for itself in 54 days."
7 "Able to use salvage stock for some operations."
8 "25,000 more pieces before changing dies."

MODELS TO FIT ANY STOCK UP TO 96" WIDTH

Union is the foremost designer and manufacturer of roller coating machines for application of drawing or stamping compounds and protective coatings.

Models may be equipped with hardened steel, or with neoprene-covered rolls—also with heated or cooled rolls—to meet your individual requirements.

*The above claims are based on actual statements by users, both large and small—a number of whom have ordered a second and third machine.
Complete data and agent's name on request. Union will design and/or manufacture coating machines to meet your specific requirements.

UNION TOOL CORP.
318 E. MARKET ST., WARSAW, IND., U.S.A.

USERS SAY UNION CUTS COSTS, SPEEDS PRODUCTION

For more details circle NED-925 G3 on enclosed inquiry slip

KEYWAYS?

CUT 'EM EASY—by hand, arbor press
CUT 'EM QUICK — one minute per keyway
CUT 'EM CHEAP — as little as a penny apiece

(25 standard Kits; 23 standard sizes of broaches; 71 standard size bushings; and a wide variety of production type, guideless broaches)

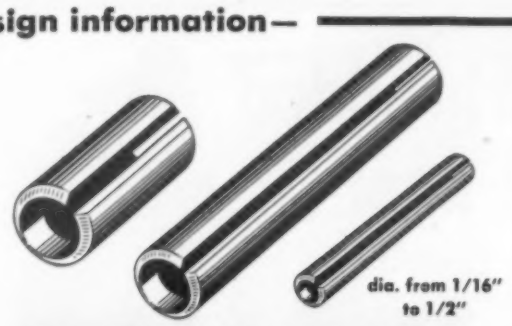
with du MONT *Minute Man*
KEYWAY BROACH KITS

CUT AND MAIL THIS COUPON TO

The du MONT CORPORATION, Greenfield, Mass.
MAIL ME FREE CATALOG and PRICE LIST D
Name .....
Company .....
Address .....

For more details circle NED-926 G3 on enclosed inquiry slip

Design information—



ROLLPIN

. . . the slotted tubular steel pin with chamfered ends

- Easily driven into holes drilled to normal production tolerances
- Self-locking . . . exerts constant pressure against hole walls
- Easily removed with drift or pin punch
- Fits flush . . . is reusable

Offers assembly-time savings over rivets, set screws, straight, serrated or cotter pins, dowels, hinge pins and many others.

WRITE for detailed catalog—Elastic Stop Nut Corporation of America, 2330 Vauxhall Road, Union, N. J. Address Dept. R18-737.

For more details circle NED-927 G3 on enclosed inquiry slip

measure tension Accurately!

When you equip your shop or laboratory with Apco Mossberg Torque Screw Drivers, testing or measuring final tension on precision fasteners is quicker...easier...and infinitely more accurate. Here's why.

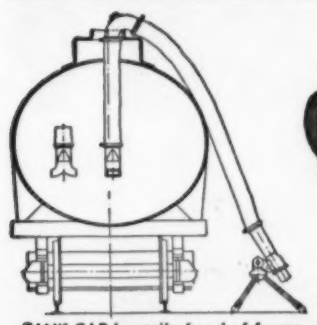
Apco Torque Drivers are especially designed for maximum convenience, precision performance. Large, easy-to-read dials assure instantaneous measurements. Lighter, stronger construction makes them easy to handle . . . simple to operate. There are no springs or delicate parts to get out of kilter.

What's more, every Apco driver—from the 0 to 6 in. oz. size to the 0 to 24 in. oz. models with large positive and positive-negative dials—comes complete with a standard Stanley tool holder to accomodate interchangeable bits. With an Apco Driver, you can tighten or test torque on *all* types of fasteners—including light plastic screws.

Get the full facts on Apco Mossberg Torque Tools today! Contact your distributor or write direct. Apco Mossberg Co., 161 Lamb Street, Attleboro, Mass., U.S.A.

APCO MOSSBERG CO.
ATTLEBORO, MASS.

For more details circle NED-928 G3 on enclosed inquiry slip



TANK CAR is easily freed of fumes for workers' safety.

CHEMICAL STILL is here ventilated while being repaired.

KEEP AIR FRESH

in confined places with COPPUS *Design "A" Ventilator*

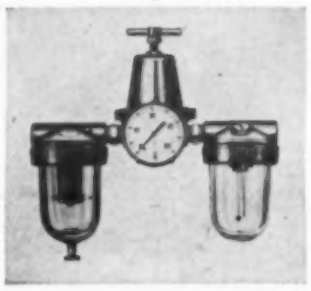
Improve workers' safety—health—comfort—efficiency. Get rid of dangerous gases, fumes, stagnant air. Coppus Design "A" Ventilator ventilates tanks, tank cars, drums, vats, underground cable manholes, pipe galleries, airplane wing compartments, fuselages. For complete information, write Coppus Engineering Corporation, 407 Park Ave., Worcester 2, Mass. Sales Offices in *Thomas' Register*.

Other "Blue Ribbon" Products in *Chemical Engineering Catalog, Refinery Catalog, Best's Safety Directory* and *Mining Catalogs*.

ANOTHER COPPUS "BLUE RIBBON" PRODUCT

For more details circle NED-929 G3 on enclosed inquiry slip

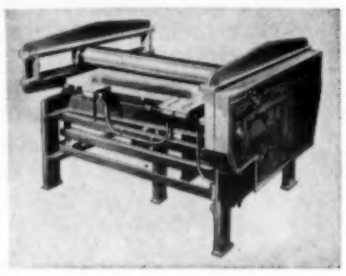
AIR LINE FILTER
is also regulator, lubricator



Obtainable in sizes of 3/8, 1/2, 3/4 and 1-in., the Arrow filter-regulator-lubricator is available either as a unit or in the various combinations suggested by its components. The filter portion has a combination of straight centrifugal action and porous bronze filter. Level of filtrate is visible at all times in transparent reservoir. Lubricator adds vaporized oil to the air stream where it remains in suspension. The quantity added is automatically regulated by air velocity, but supplementary adjustments can be made mechanically. Regulator prevents pressure build-up in dead-end applications, and also features oil resistant nylon reinforced diaphragm, stainless steel bushings and center shaft. Made by **Arrow Tools, Inc.**, 1904 S. Kostner Ave., Chicago 23, Ill.

For more details circle NED-930 G3 on enclosed inquiry slip

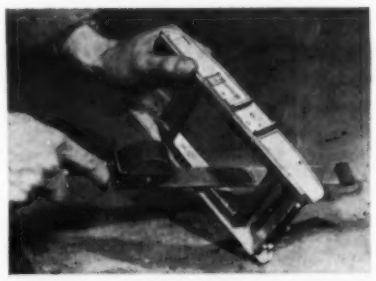
ROLLER DIE CUTTER
cuts shapes and strips foam rubber



Foam and sponge rubber, rubberized hair, felt, cotton, paper-cloth laminations and many other materials lending themselves to die cutting can be processed into shapes and strips by this power roller die machine. It can be adapted to power feed or wind-up and uses steel rule dies. Cutting is accomplished in a manner similar to operation of a printing press. Four machine sizes are 72 x 48 in., 60 x 36 in., 36 x 24 in. and 24 x 18 in. The 60 x 36-in. machine has an operating speed of up to 50 fpm. Auxiliary roll stands are extra equipment. Made by Campbell Machinery Development Co. and announced by **Falls Engineering & Machine Co.**, 1734 Front St., Cuyahoga Falls, O.

For more details circle NED-931 G3 on enclosed inquiry slip

ABRASIVE FILE
cutting surface feeds from roll



Used like a conventional metal file, the Red Flash has a cutting surface that feeds from a coated abrasive cloth roll. Designed for deburring, filing and finishing operations, the file has a stroke of 11 in., and holds a roll of more than 6 ft of abrasive cloth which can be changed as necessary to maintain peak cutting efficiency. Refill Three-M-Ite abrasive cloth rolls in 50-yd lengths are available in grit sizes from 24 to 320. Files are available in 1 and 1½-in. widths. Made by **Monarch Machine Shop, Inc.**, Dept. 875, 2530 Pennsylvania Ave., Madison 4, Wis.

For more details circle NED-932 G3 on enclosed inquiry slip

OPERATION RECORDER
"logs" engine operating data

An accurate operating record for portable and stationary engines is provided by the Hour Log, an instrument operating on direct current. It tells exactly how long each piece of equipment has been operating, thus simplifying servicing. Use can be on engine driven tractors, trucks, road graders and material handling equipment. Made by **Engler Instrument Co.**, 270 Culver Ave., Jersey City 5, N. J.

For more details circle NED-933 G3 on enclosed inquiry slip

This new pump has what thousands of customers have asked for

For 50 years we've been learning from our industrial customers what they want in centrifugal pumps.

We've come as close as modern design and materials allow to putting what you want into the Fig. 3405 pump.

The 12-page illustrated bulletin No. 721.6 covers every detail of this pump—general description, specifications, mechanical data, parts interchangeability table, performance curves, dimensions. We think you'll agree that here's a pump with everything for long, satisfactory service. Write today for Bulletin 721.6. GOULDS PUMPS, Inc., Dept. NED, Seneca Falls, N. Y.

Goulds PUMPS INC. Seneca Falls New York

For more details circle NED-934 G3 on enclosed inquiry slip

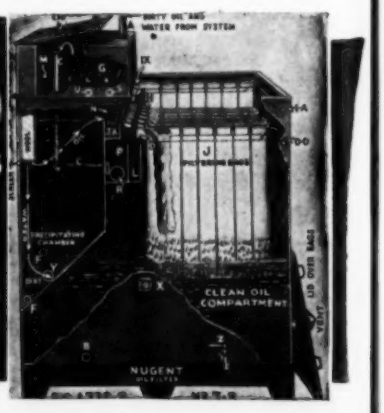
Write for your copy of this new 32-page engineering manual . .

This new illustrated manual is full of information about Mueller Brass Co. brass, bronze and aluminum forgings . . . includes charts, graphs, facts and figures that give complete data about design factors, tolerances and the chemical, mechanical and physical properties of the MBC forging alloys. Get your copy of this valuable handbook today . . . it's yours for the asking.

MUELLER BRASS CO., PORT HURON 27, MICHIGAN
112-A

For more details circle NED-935 G3 on enclosed inquiry slip

98% SAVINGS in Lube Oil with NUGENT GRAVITY FILTERS



NUGENT GRAVITY FILTERS are widely used to supply continuously clean oil in turbine lubrication systems. They filter out dirt, carbon, water and harmful impurities without changing the original characteristics of the oil. They are built in standard capacities from 20 to 2,000 GPH. The only moving element is the oil itself, thus the greatest economy is effected—no power cost—no breakdowns or costly maintenance. Cleaning time averages five minutes per bag.

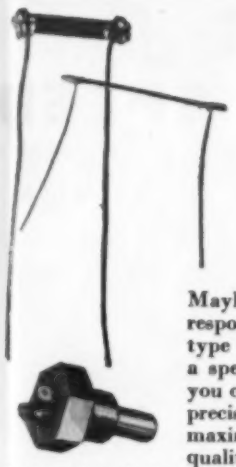
Write for bulletin

NUGENT TRADE MARK Est. 1897

Wm. W. Nugent & Co., Inc.
401 N. Hermitage Ave. CHICAGO 22, ILLINOIS

Oil Filters, Oiling and Filtering Systems, Telescopic Oilers, Oiling Devices, Sight Feed Valves, Flow Indicators . . . *Representatives in Principal Cities*

For more details circle NED-936 G3 on enclosed inquiry slip



Used in this typical application for sensing temperature of hydraulic oil.

precision-made to your needs . . . **BENDIX-FRIEZ** thermistors

Maybe your need for these temperature responsive resistors can be satisfied by a type we carry in stock. Maybe you require a specially-developed type. In either case, you can depend on Bendix-Friez to provide precision-made thermistors to serve you with maximum efficiency. High standards of quality control in manufacture make Bendix-Friez Thermistors pre-eminent in their field—assure you of utmost satisfaction.

STANDARD TYPES FOR IMMEDIATE DELIVERY

Size (inches)	@ +30°C.	@ 0°C.	@ −30°C.
.140 x .75	45.0 ohms	86 ohms	194 ohms
.040 x 1.5	12,250 ohms	26,200 ohms	65,340 ohms
.018 x 1.5	35,000 ohms	82,290 ohms	229,600 ohms

Write for details.

FRIEZ INSTRUMENT DIVISION of Bendix AVIATION CORPORATION

1444 Taylor Avenue, BALTIMORE 4, MARYLAND

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

For more details circle NED-937 G3 on enclosed inquiry slip

You Can Take the Word of 50,000 Firms

That SPEED SWEEP Floor Brushes Sweep Cleaner, Faster and Outlast Ordinary Brushes

Unique in design and construction, Speed Sweep so far outperforms and outlasts other floor brushes that over half of the nation's top rated firms use Speed Sweep under widely diversified sweeping conditions. We know Speed Sweep can do a better job for you, too. In fact, we guarantee it. We invite a trial order on that basis. Write for complete facts, including styles, sizes and prices today.

MILWAUKEE DUSTLESS BRUSH CO.

530 N. 22 STREET, MILWAUKEE 3, WISCONSIN

For more details circle NED-938 G3 on enclosed inquiry slip

INTRODUCING CADDY® TOGGLE CLAMPS

EXTRA LARGE PIVOT PINS
Up to 3 times more bearing surface than other clamps. In actual test under load, V-3 clamp withstood 250,000 cycles without excessive wear.

ALL WELDED CONSTRUCTION
Will not come apart even after pins become excessively worn.

DOUBLE CLAMPING PRESSURE
Design of linkage provides double the clamping pressure of competitive clamps at the same pressure on the handle.

HEAVIER LINKS AND HANDLE
Will withstand extreme abuse. Pipe extension handle may be used without damage to linkage.

REINFORCED CLAMP BAR
Eliminates weak point where pivot pins pass through bar.

HEAVIER FRAME
Will not spring or bend under maximum load.

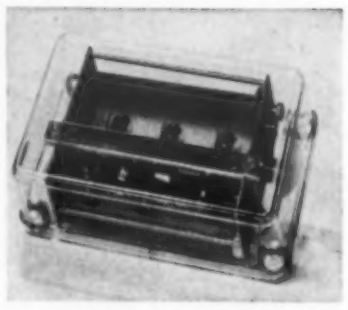
FOR COMPLETE INFORMATION BULLETIN TC-6 ON REQUEST

DEALERSHIPS AVAILABLE

ERICO PRODUCTS, Inc.
2070 EAST 61st PLACE
CLEVELAND 3, OHIO

For more details circle NED-939 G3 on enclosed inquiry slip

IMPACT RECORDER
small, three-directional model



Model HXS Impact-O-Graph is a small, lightweight, three-directional impact recorder that does not contain a time element. Unit measures 6⅛ x 3½ x 2⅞ in. and weighs 1 lb 6 oz. It can be used for drop and impact tests and to record the number and severity of bumps received during product shipment. Frequency of shock is recorded through a mechanism similar to that used on a self-winding watch. Recordings can be seen through the clear plastic case without disassembly. Made by **Impact-O-Graph Corp.**, Room 801, 1900 Euclid Ave., Cleveland 15, O.

For more details circle NED-940 G3 on enclosed inquiry slip

CARTON STITCHER
powered by gasoline engine

Because this Speed Stitcher is powered by a Briggs & Stratton four-cycle ¾-hp gasoline engine, the machine can be used in remote areas which have no other source of power. Machine is offered as a straight arm, sword arm, seam stitcher, bottomer, or as a combination bottomer and straight arm or combination bottomer and sword arm. An all metal 25-lb coil holder makes possible long uninterrupted operation. Made by **Inland Wire Products Co.**, Dept. NED, 3947 S. Lowe Ave., Chicago 9, Ill.

For more details circle NED-941 G3 on enclosed inquiry slip

HYDRAULIC SHOP PRESS
hand pump develops 10,000 psi

The 17½-ton ram of the model Y106A press serves a dual purpose, in that it can be detached easily from the press and used as a portable power unit. The ram is powered by a hydraulic hand pump developing 10,000 psi connected by a high pressure 6-ft hose. The press is equipped with a gage reading to 15,000 psi to provide an accurate indication of applied pressure. Made by **Owatonna Tool Co.**, 436 Cedar St., Owatonna, Minn.

For more details circle NED-942 G3 on enclosed inquiry slip

REEL LIFTER & ROTATOR
two sizes for up to 60-in. reels

Lifting, rotating and lowering wire and cable reels is made safe and easy with this hydraulic reel lifter and power rotator. Lifter is also available without power drive for merely lifting loaded reels to remove their contents. Two standard sizes are made for reels from 24 to 52 in. diameter and up to 30 in. wide, and from 30 to 60 in. diameter and 36 in. wide. Special sizes are available. Made by **Neal Co.**, Dept. 18, 2806 Leavenworth St., Omaha, Nebr.

For more details circle NED-943 G3 on enclosed inquiry slip

SPOT COOLING WHEN & WHERE YOU WANT IT

Reed PORT-O-VENT
PORTABLE AIR CIRCULATOR

Cat. No.	Air Cap. CFM*	Blade RPM	Motor #	Case Dimensions	Fan Weight
RUF-36 POV	9,250	350	1/3 hp	42"x42"x14½"	169 Lbs.
RUF-42 POV	11,000	354	1/3 hp	48"x48"x14½"	194 Lbs.

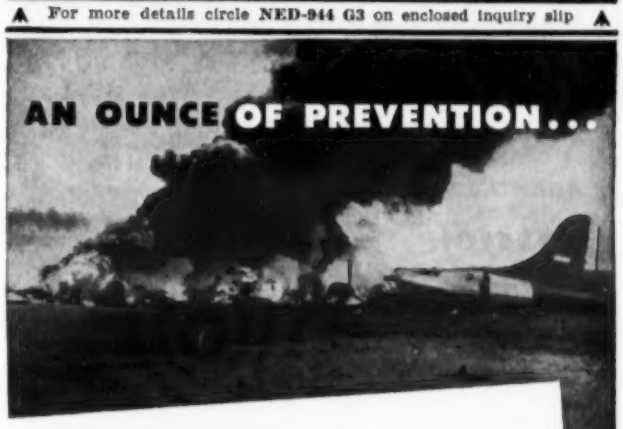
Certified Air Deliveries #115v.-60cy., single-phase. Other type motors on special order.

Rugged, mobile man-cooler that puts plenty of air where it's needed. All-welded steel, swivel casters, heavy wire guards both sides, reversible, overload-protected motors. Powerful, six-blade construction, super-quiet.

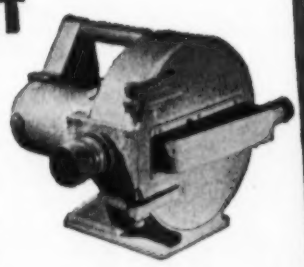
Reed UNIT-FANS, INC.
1001 SAINT CHARLES ST., NEW ORLEANS, U. S. A.

WRITE FOR DETAILS TODAY

For more details circle NED-944 G3 on enclosed inquiry slip



FASTAX CAN GIVE Your ENGINEERS JUST THAT



High-speed motion picture studies have helped solve many engineering problems . . . have been that ounce of prevention which has saved many a plane from mishap because of mechanical failure.

Fastax High-Speed Cameras—8mm, 16mm and 35mm—take up to 16,000 pictures per second. When these same pictures are projected at normal speed (16 frames per second) fast operations are slowed down almost to a standstill. Trouble spots are easily seen and analyzed. Fastax high-speed studies have been made of aerodynamics, vibration, shock, equipment performance.

For further information on what high-speed photography can do for you, Write Fastax Division, Wollensak Optical Co., Rochester 21, N. Y.

Wollensak
OPTICAL COMPANY, ROCHESTER, N. Y.

- RAPTAR
- RAPAX
- FASTAX
- MIRROTEL

For more details circle NED-945 G3 on enclosed inquiry slip

Spiral Ratchet Screw Drivers

With the fast, easy action of "YANKEE" Drivers, tough assembly jobs are a pushover. On thousands of applications like the one pictured above "YANKEE" Drivers speed work, cut costs on every unit—keep worker fatigue at a minimum. Made in two styles—regular and "quick-return". Accessories available.

See how "YANKEE" Drivers prove their value in speeding assembly on everything from baby strollers to oil burners. Write to address below.

FREE

ASK YOUR INDUSTRIAL DISTRIBUTOR TO SHOW YOU THE COMPLETE LINE OF "YANKEE" TIME-SAVING TOOLS.

NORTH BROS. MFG. CO.
205 West Lehigh Avenue
Philadelphia 33, Pa.
Division of Stanley Tools

STANLEY
Reg. U.S. Pat. Off.

▲ For more details circle **NED-946 G3** on enclosed inquiry slip ▲

flexibility FOR ADAPTABILITY OF DESIGN

standard spacing of mounting bracket holes enables you to meet new control specifications without changes in frame drawings using...

GUARDIAN APPROVED *Interchangeable* AIRCRAFT RELAYS

first...with the latest in Aircraft Control!

AIRCRAFT DESIGN ENGINEERS can allow for continuously changing power and performance requirements through the complete *interchangeability* (on the same mounting base) of this new line of Guardian Aircraft Relays. Standard spacing of mounting bracket holes provides extreme flexibility. **It's the way to meet new control specifications without changes in frame drawings!** Units range from single pole, single throw (time delay available) to four pole, double throw contact combinations, with ratings from 10 amperes to 50 amperes at 28 v., D.C. All sealed in accordance with MIL-R-6106. Weights: from 7.5 ounces to 20.8 ounces. Write for Bulletin 1 AR.

200 Ampere Solenoid Contactor

NOTE THE PRECISE ALIGNMENT OF MOUNTING HOLES!

Specify from Guardian's complete range for every advantage of quick interchange:

GUARDIAN ELECTRIC
1626-H W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

▲ For more details circle **NED-947 G3** on enclosed inquiry slip ▲

Get these facts!

ON QUICK, EASY PRODUCTION OF NYLON MAINTENANCE PARTS FROM POLYPENCO® NYLON ROD . . . STRIP . . . TUBING

These bulletins give full information on POLYPENCO nylon standard shapes. Cite examples of how to get *all* the advantages of nylon for maintenance parts by fabricating from standard shapes.

- Standard shapes (rod, strip, tubing)
- Formulation and characteristics
- Available sizes and length
- Recommended machining practice

CLIP AND MAIL COUPON NOW!

Polymer Corporation of Penna., Reading, Penna.
Please send full technical and fabricating data ☐
rod, strip and tubing prices ☐
NAME.....TITLE.....
COMPANY.....
ADDRESS.....
CITY.....ZONE.....STATE.....
(Please print)

▲ For more details circle **NED-948 G3** on enclosed inquiry slip ▲

MULTIPLE BURRING BARRELS
handle two lots simultaneously

Permitting two lots of parts to be handled at the same time in place of one, these multiple tumbling units adapt to both single and twin Rampe machines. Used on the twin, they make possible the finishing of four individual lots at one time; on the single, of two. They are furnished either unlined or lined with vinyl plastic. Made by **Rampe Mfg. Co.**, 3322 St. Clair Ave., Cleveland 14, O.

▲ For more details circle **NED-949 G3** on enclosed inquiry slip ▲

WHEEL-AXLE COMBINATION
axle is built into wheel

Designed for light duty mobile equipment, primarily power lawn mowers, carts and sprayers, the Stub-Axle wheel features an axle built into the wheel as combined assembly. Stub axle of this ball-bearing unit acts as inner race for the bearings, eliminating need for axle shoulder bolts, hub caps or cap nuts, washers and other extras. Wheels are easily mounted by simply screwing them into frame. They can be made to any specifications and interchanged with those now in use. Standard sizes are 6, 8, 10 and 12 in. with 1¾ in. wide flat top tires. Wheels are built of heavy gage steel and feature hubs flush with tires. Made by **Neilson Wheel Co.**, Dept. A, 1614 N. Twelfth St., Milwaukee 5, Wis.

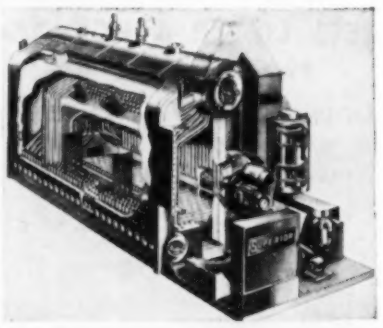
▲ For more details circle **NED-950 G3** on enclosed inquiry slip ▲

SYNCHRONOUS TIMING MOTOR
in speeds from 1/16 to 1800 rpm

Oil retaining disks which trap oil at bearing surfaces for leakproof operation are feature of series 50 synchronous timing motor with torque rating of 40 oz-in. at 1 rpm. Other advantages include cut gears and pinions throughout, polished spindles; 50 per cent more bearing surface than previous models, and positive positioning and locking of stator and rotor assemblies. Motors are available in unidirectional or reversible models in wide variety of output speeds from 1/6 to 1800 rpm and for operating voltages from 6 to 550 v ac. Made by **Hagen Mfg. Co.**, 201 Twentieth St., Moline, Ill.

▲ For more details circle **NED-951 G3** on enclosed inquiry slip ▲

STEAM GENERATORS
capacities 5300 to 33,000 lb/hour

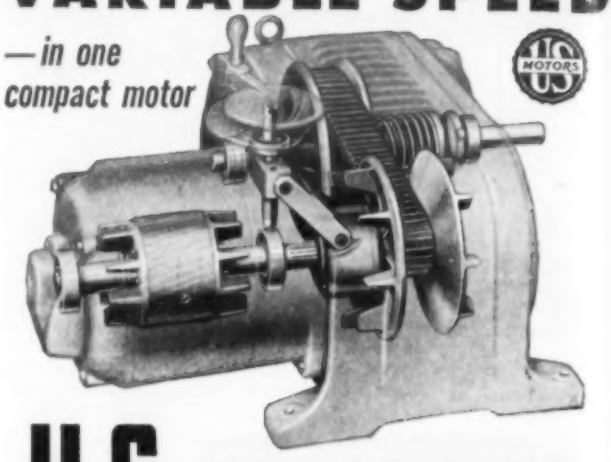


Featuring fully automatic firing with oil, gas, or stoker coal, line of water tube steam generators are available in nine sizes with capacities from 5300 to 33,000 lb of steam per hour. Standard pressures range up to 400 psi. Packaged unit design is an important feature, as generators are shipped fully wired and fitted and with their own structural steel base, requiring no foundation and minimum installation expense. An A-type boiler design promotes quick steaming, while the tube layout protects the steam drum from direct impingement. Dual induced draft fans and divided second pass give a flexible firing range. Made by **Superior Combustion Industries, Inc.**, Room 305, 1475 Broadway, New York 18, N. Y.

▲ For more details circle **NED-952 G3** on enclosed inquiry slip ▲

Simplified VARIABLE SPEED

—in one compact motor



U.S. *VARIDRIVE*

...miracle motor with infinite speeds

Varidrive accomplishes in a single power unit functions that formerly required many separate cumbersome units. You can instantly vary speed for each load condition; increase production; improve operator's ability; adjust speed to overcome chatter, vibration and pulsation.

Write for new 16-page U. S. Varidrive Motor Bulletin.

U.S. ELECTRICAL MOTORS Inc.
Box 2058, Los Angeles 54, Calif. Milford, Conn.

▲ For more details circle **NED-953 G3** on enclosed inquiry slip ▲

cold forged **precision cap screws**

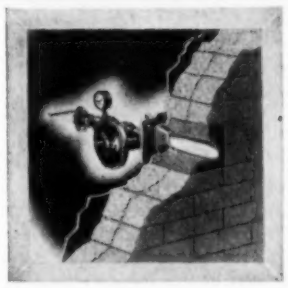
CHANDLER fasteners are manufactured from the highest quality steel, selected to meet requirements of load or stress encountered in service. They are precision formed to exact specifications to insure accuracy and quality. This uniform high quality makes assembly faster, and smoothly finished heads assure good appearance of completed assemblies.

CHANDLER specializes in the manufacture of cold forged metal fasteners for the automotive, aviation, transportation and farm implement industries. For complete uniformity and accuracy of production, specify **CHANDLER**. 1306-CH

Specialists in Thread-Rolling After Heat Treating

CHANDLER PRODUCTS CORPORATION
1495 Chardon Road • Cleveland 17, Ohio

▲ For more details circle **NED-954 G3** on enclosed inquiry slip ▲



it would take 800 pictures like this...

to show all the types and sizes of 'Surface' industrial burners.

One of our own "sticklers for accuracy" challenged this statement. For his satisfaction, a relisting was made, which more than proved the point. Whatever the gas, capacity needs, or application requirements, the chances get better all the time that your burner requirements can be met by 'Surface' cataloged burners.

Write for bulletin 2-GE-8

Surface
HEAT TREATING EQUIPMENT

SURFACE COMBUSTION CORPORATION, TOLEDO 1, OHIO
Also makers of JANITROL SPACE HEATING—KATHABAR HUMIDITY CONDITIONING

▲ For more details circle **NED-955 G3** on enclosed inquiry slip ▲

At Last...

AN INDUSTRIAL FAN WHICH

REQUIRES NO MAINTENANCE

OFFERS FULL 10-YEAR GUARANTEE

Sealed, lifetime-lubricated ball bearings in *both* fan and motor never require lubrication. Install 'em and forget 'em.

INDUSTRIAL FANS BY

Murray COMPANY OF TEXAS INC

Atlanta, Ga.

H. C. BIGLIN CO., INC.

177 HARRIS STREET, N.W. • ATLANTA, GEORGIA

For more details circle NED-956 G3 on enclosed inquiry slip

LOVEJOY Power Transmission Equipment

Long Dependable Service

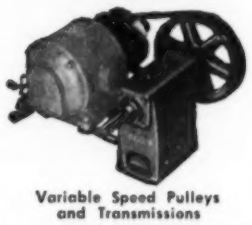
Operating Economy

Efficient Production Control

Flexible Couplings

LOVEJOY FLEXIBLE COUPLINGS. Provide positive protection against vibration, torque, and shock of intermittent loads. Cushions changed without shutdown. No lubrication required. Every duty from 1/6 to 2500 hp.

LOVEJOY VARIABLE SPEED PULLEYS. Change instantly to any speed required—while machine is running. Ratios to 3 to 1. Fractional to 8 hp.



Variable Speed Pulleys and Transmissions

LOVEJOY SELECT-O-SPEED TRANSMISSION: Finger-tip control for instant adjustment over wide range of speeds. Hand wheel or lever control. Ratios to 10 to 1. Fractional to 7½ hp.

LOVEJOY UNIVERSAL JOINTS: Finest alloy steel. Precision ground. No binding, backlash, or pin inplay. 13 sizes. Bores ¼ to 2 in. Lengths 2 to 10⅝ in.

Universal Joints

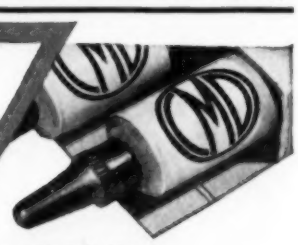
Send for catalog and engineering data

LOVEJOY FLEXIBLE COUPLING CO.

5003 W. Lake St., Chicago 44, Illinois

For more details circle NED-957 G3 on enclosed inquiry slip

read what users say



CMD

about **CMD** anti-scoring lubricant

Among technical men all over the country, CMD has become the standard for extreme pressure, anti-scoring lubrication. These men have found that they can get more efficient lubrication for a longer time... ...and get longer life out of their equipment too. People who have used and tested CMD are your best proof of its reliability.

"We have been using your Anti-Scoring Center Point Lubricant on all ejector, return and guide pins: and we highly recommend this lubricant to anyone having trouble with scored and broken pins of this type on die cast dies." *Die Manufacturer*

"We have tried out your CMD Anti-Scoring lubricants in both grease and oil in comparison with another brand claiming to be the world's best, for the purpose. We are happy to report that we have found your product superior in remaining in its protective position under sustained heavy loads for the longest periods of time of any material we have tried for this purpose." *Engineering Consultant*

"Some time ago you very kindly sent to us some samples of your CMD Center Point Lubricants. These have been carefully tested in a number of applications besides the lubricating of centers, and we are pleased to say that the results have been very satisfactory even in cases where other well known high pressure lubricants have failed in a very short time." *University Dept. of Physics*

Sample Kit Available for Your Trial

CHICAGO MANUFACTURING & DISTRIBUTING CO.

1902 West 46th Street, Chicago 9, Illinois

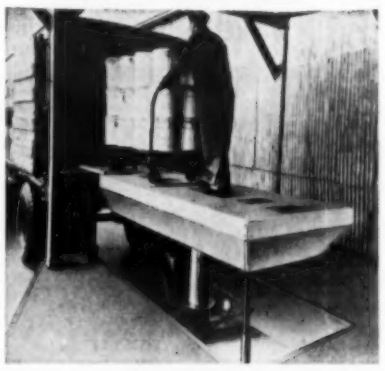
For more details circle NED-958 G3 on enclosed inquiry slip

ELECTRICAL TESTING UNIT
has phenolic molded case

Originally limited to government use as a blasting galvanometer for testing demolition circuits, this electrical testing unit is now offered for variety of industrial applications. In checking resistors, tester is accurate to within plus or minus 1 per cent, whereas standard commercial allowance is plus-minus 5. Unit has self-insulating, weather-resistant case molded of Durez phenolic compound and features silver chloride battery for long life. Made by **Demaco, Inc.**, 3315 Butternut St., Detroit, Mich.

For more details circle NED-959 G3 on enclosed inquiry slip

AUTOMATIC LOADING PLATFORM
operation initiated by truck action



Load-O-Matic is a completely automatic loading platform for handling loads between truck floor and loading dock. Operation is initiated when the front wheels of the handling truck touch a switch bar in the loading platform floor to actuate the hydraulic lifting mechanism. Leveling ramp automatically stops the platform when it is in the same level plane as the truck floor and bridges the gap between. Action is reversed when the truck touches the switch bar from the opposite direction, with platform stopping when it reaches the level of the dock. Standard Load-O-Matic unit offers a travel of any 30 continuous inches from any point 30 in. above loading dock to 30 in. below. Made by **Field Engineering Co.**, Dept. B, 66 Foote Ave., Jamestown, N. Y.

For more details circle NED-960 G3 on enclosed inquiry slip

PORTABLE ELECTRIC PLANT
automatic unit develops 1000 w

For outdoor and remote applications, model 1A21 portable electric generating plant is available for gasoline or natural gas fuels. It starts automatically when any appliance or lamp bulb is turned on, and will operate up to forty 25-w bulbs at one time. Push-button start models are also available. Units do not interfere with radio reception, and good voltage and frequency regulation permit satisfactory operation of fluorescent lights, public address systems and movie projectors. Made by **Kohler Co.**, Dept. 2, Kohler, Wis.

For more details circle NED-961 G3 on enclosed inquiry slip

COLOR MARKER
for instrument or clock dials

This bench-type, hand-operated machine which applies color to machinery, instrument, clock and television dials functions as a printing press, utilizing an inking roll and revolving platen. Also made in foot, power and motor driven models, machine features printing plate or die of Acroprene synthetic rubber which is molded to match numbers, letters and design of dial. Dies bonded to metal plate are quickly removable and adjustable. From 20 to 50 dials can be colored per minute. Made by **Acromark Co.**, 7-11 Morrell St., Elizabeth 4, N. J.

For more details circle NED-962 G3 on enclosed inquiry slip

IT COSTS LESS TO USE THE BEST!

PLS

1. Takes less PLS to give a perfect seal.

2. One compound for many services: water...oil...gas...steam...chemicals...petroleum products—low and high pressures.

3. Never washes out—one application lasts forever.

4. Never hardens: joints may be easily broken after years of service—no damaged connections.

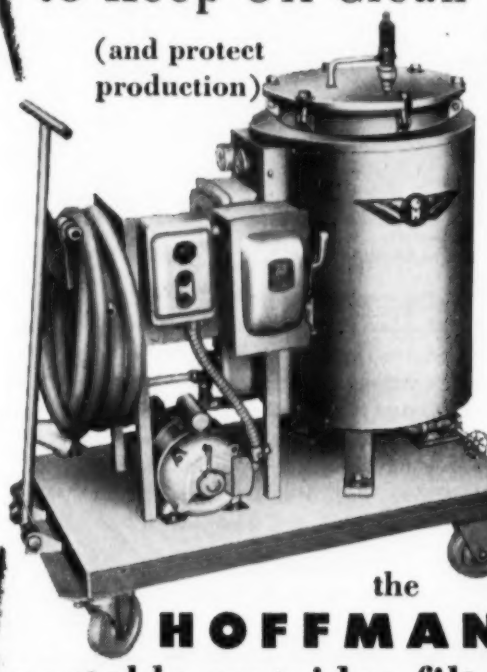
Prove it to yourself. Send for a free sample. Crane Packing Company, 1811 Cuyler Avenue, Chicago 13, Ill.

JOHN CRANE CRANE PACKING COMPANY

For more details circle NED-963 G3 on enclosed inquiry slip

GOES ANYWHERE to Keep Oil Clean

(and protect production)



the **HOFFMAN** portable cartridge filter

Fills the need for periodic, scheduled filtration of oils where quantity does not warrant separate, continuous filtration. Easily moved from one machine to another. Flexible hose with quick connecting couplings attaches to the oil supply of the machine. Operates on a recirculation basis for such time as is required to fully recondition the oil.

For use on hydraulic oils (hydraulic presses, hydraulic machine tools, injection moulding machines, die casting machines) and quench oils. Two sizes: 30 and 60 g.p.h. capacities for repackable or throwaway cartridges. Fuller's earth or cellulose.

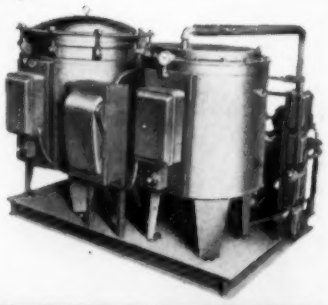
Write for Bulletin A-916 today.

For Complete Purification of Used Oils —

HOFFMAN OIL CONDITIONER

25 to 600 g.p.h. capacity
Removes solubles and insolubles

Write for free Bulletin A-667



TOPS IN VALUE SINCE 1905 **Hoffman**

INDUSTRIAL FILTRATION EQUIPMENT & SERVICE

U. S. HOFFMAN MACHINERY CORP., 225 LAMSON STREET, SYRACUSE 6, N. Y.

In Canada: Canadian Hoffman Machinery Co., Ltd., Newmarket, Ont.

For more details circle NED-964 G3 on enclosed inquiry slip

WANT PROOF?

. . . that Lewis-Shepard Trucks can save you money.

Then, write for these "Proof Folders" that show how companies in many industries are saving with Lewis-Shepard Electric Trucks. You're invited to inspect this proof . . . draw your own conclusions.

The "Proof Folders" include facts, figures, and familiar company names. Every word is a direct quotation or approved by the company concerned. They are the true experiences of both large and small users, told in a way that's interesting and informative. Write for these "Proof Folders" today!

MULTIPLY MANPOWER LEWIS-SHEPARD

LEWIS-SHEPARD

The MASTER Line

1032-7 WALNUT ST., WATERTOWN 72, MASS.

Nationwide Service—See "Trucks, Industrial" in your Yellow Phone Book

For more details circle NED-965 G3 on enclosed inquiry slip

1.5/1000ths of an inch in tissue protection!

*Glassware courtesy The Cambridge Glass Company, Cambridge, Ohio.

Protecting fragile glassware like this against scratching and other damage during shipment is just one of many successful uses for Crystal Tissues. What's your product? Aluminum pans? Moulded items? Hardware? Something else? Crystal Tissues may be the most economical solution to your wrapping and packaging problems. Write us for the name of your local Crystal distributor. He'll show you all types, grades and weights—or develop a special tissue if required.

THE CRYSTAL TISSUE COMPANY
MIDDLETOWN, OHIO

Crystal

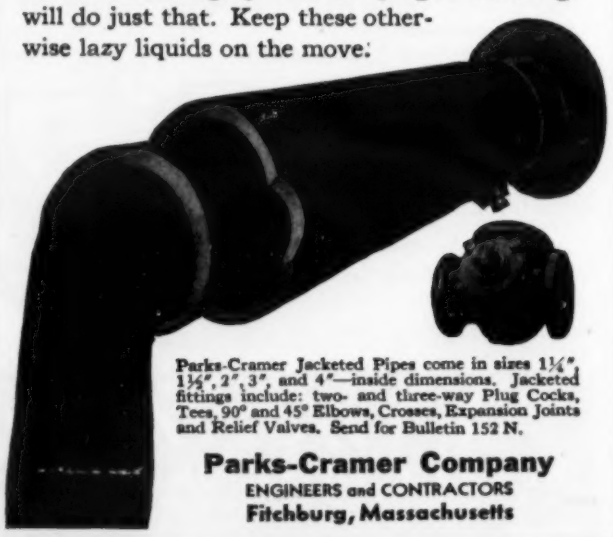
For more details circle NED-966 G3 on enclosed inquiry slip

LAZY LIQUIDS

KEPT ON THE MOVE

Maybe it is Asphalt, Rosin, Wax, Sulphur, Syrup or some other LAZY Liquid. Heat them and they flow more readily. Heat the pipes that convey them also—and they continue to flow.

Steam, Hot Water, Hot Oil, or Dowtherm circulated through Jacketed Piping and Fittings will do just that. Keep these otherwise lazy liquids on the move.



Parks-Cramer Jacketed Pipes come in sizes 1¼", 1½", 2", 3", and 4"—inside dimensions. Jacketed fittings include: two- and three-way Plug Cocks, Tees, 90° and 45° Elbows, Crosses, Expansion Joints and Relief Valves. Send for Bulletin 152 N.

Parks-Cramer Company
ENGINEERS and CONTRACTORS
Fitchburg, Massachusetts

For more details circle NED-967 G3 on enclosed inquiry slip

INDICATING SCALE
range is from 50 to 1500 grams

Latest addition to Shadograph line of scales is this 4200 series model which features center tower type reflecting shadow weight indicator. Commodity platter is on one side of tower with counterweight platter on other side. Beam and poise are mounted in front of scale for accessibility. This feature, plus indicator dial being in direct line with operator's vision makes scale particularly suitable in operations which require frequent changing of poise setting. Range is from 50 grams at 10-milligram sensitivity to 1500 grams with 350-milligram sensitivity. Made by **Exact Weight Scale Co.**, 930 W. Fifth Ave., Columbus 8, O.

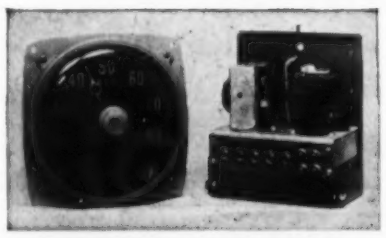
For more details circle NED-968 G3 on enclosed inquiry slip

INDUSTRIAL PAINT ROLLERS
heavy-duty type have phenolic core

With a high pile lamb's wool roller based on a Bakelite phenolic resin impregnated paper core, these industrial paint rollers are available in 9, 14, and 18-in. widths. Impregnation renders the core resistant to paints, solvents and thinners. Standard or extra-long poles are available for the rollers, which ride on brass bearings in a rustproof aluminum frame. Oil, water, or rubber base paints can be rolled onto surfaces including metal, wood, plaster, cement, stucco, composition board and plastic. Made by **American Products Co.**, 3306 Edson Ave., New York 69, N. Y.

For more details circle NED-969 G3 on enclosed inquiry slip

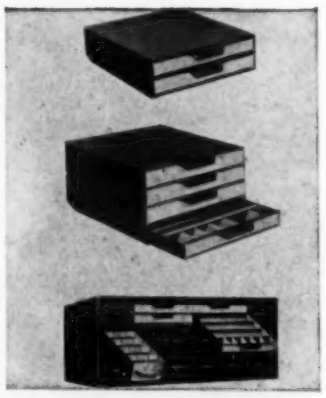
SPEED MONITOR
controls speed and actuates relays



In addition to providing accurate indication and control of speed, this monitor will actuate relays and solenoids governing various functions. It operates on mechanical tachometer principle; is unaffected by heat, temperature and moisture variables; and is driven by flexible shaft and gears from any machine shaft. The unit operates on 115-v 60-cycle single-phase ac and can also be supplied for 35 or 70-v dc. Suggested relay and solenoid applications include gear shifting, operating clutches, visual or audible signalling, temperature, overload and motor-actuated remote valve control. Made by **Jones Motrola Corp.**, 100 Noble St., Stamford, Conn.

For more details circle NED-970 G3 on enclosed inquiry slip

SMALL PARTS CABINETS
can be stacked according to need



Consisting of two 1½-in. high drawers in a one-piece welded frame, Little Gem small parts storage cabinets can be equipped with dividers to give up to 56 adjustable compartments per unit. Any number of units can be stacked into a solid assembly. Overall unit size is 3¼-in. high, 11-in. deep and 11-in. wide. Units are designed for insertion in Precision standard parts cabinets if desired. Illustration shows (top) a single Little Gem cabinet, (center) two Little Gems stacked and (bottom) two Little Gems substituted for four standard drawers. Distributed by **Precision Equipment Co.**, Dept. NED-7, 3714 N. Milwaukee Ave., Chicago 41, Ill.

For more details circle NED-971 G3 on enclosed inquiry slip

Tough Babies!

THEY DEFY ROUGH HANDLING!

LOWER COST Material Handling favors these rugged items! Mill-box above features steel compound Top rail (see inset) and Bulge corners, both extraordinary wear-resisting. Note slat reinforcing and non-jamming "nesting limits"

BOTH BUILT BY "BAL" BUILT WITH A CONSCIENCE FOR MATERIAL HANDLING

Nesting tote boxes at right, also built with handles and strongly reinforced all-fibre; hard, vulcanized for severe usage.

ALSO HARD VULCANIZED FIBRE TRUCKS, DRUMS, SPECIAL CASES.

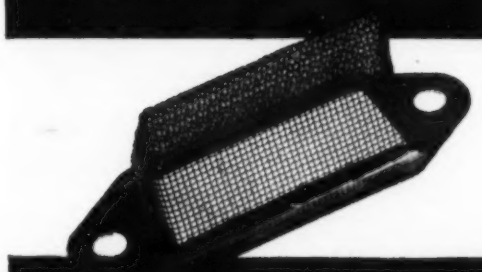
• *Write for Catalog!*

WILLIAM **BAL** CORPORATION
11 Johnson St, Newark 5, N. J.

For more details circle NED-972 G3 on enclosed inquiry slip

NEWARK
Fabricated
WIRE CLOTH PARTS

Available — a well-equipped plant with highly experienced fabricators.



Available — mesh cloth and space cloth made in our own plant.

All under one roof

Do you require parts made with one or more pieces of mesh cloth or space cloth — anything from 4 inch openings down to 325 mesh (105,625 holes/sq. in.)?

Our experienced fabricating service should be of value. We are in position to handle volume order business and, if desired, will be glad to help in designing the part requiring the metallic cloth. We know how to insert and fasten metallic cloth to get best results. We carry many standard sizes of wire cloth in stock. We have ample loom facilities to weave special cloths if necessary. We can handle any wire of any malleable metal.

This fabricated parts division of our business has grown by leaps and bounds. We have had many repeat orders. It could be due to the quality of wire cloth used and the care with which this cloth is assembled into the parts being fabricated.

NEWARK for ACCURACY

Ask for General Catalog "D".

Newark Wire Cloth COMPANY

351 VERONA AVENUE • NEWARK 4, NEW JERSEY

Philadelphia 3, Penna. 5311 Widener Bldg. | San Francisco, Calif. 3100 19th St. | Chicago, Ill. 39 S. Wacker Dr. | New Orleans, La. 520 Maritime Bldg. | Los Angeles, Calif. 1400 So. Alameda St. | Houston, Texas P. O. Box

For more details circle NED-973 G3 on enclosed inquiry slip

BRUNING ELECTRIC ERASER

Saves hours of work... Protects valuable drawings

ERASER CAN'T FLY OUT . . . valuable drawings are safe with a BRUNING Electric Eraser. Exclusive *7-inch* eraser feeds through hollow shaft — can't fly out and let ferrule gouge paper.

SAVES TIME. . . adds extra hours of working time by eliminating tiresome, finger-cramping manual erasing.

RUNS COOL AND QUIET . . . permanently lubricated bearings mean no overheating in steady operation, are mounted in rubber for vibration-free performance. Only one moving part.

EASY TO USE. . . lightweight aluminum housing fits fingers like a pencil. Eraser is extended or replaced in seconds.

Phone or write Bruning—there's an office near you—for more facts and figures on how to save time and tempers with Bruning Electric Eraser. CHARLES BRUNING COMPANY, Dept. S73 4700 Montrose Ave., Chicago 41, Ill.

A-3-3

BRUNING
Everything for the Engineer and Draftsman

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Here's a natural application for Driv-Lok Pins. Many satisfied customers are using them as hinge pins for doors, covers, guards and miscellaneous swinging or pivoted components of their products. Merely drill uniform hole, use pin with half-length grooves which lock in one part and permit free rotation of other part.

Each application suggests countless others. There are types and sizes of DRIV-LOK Pins to fit them all. Write for Catalog.

DRIV-LOK PIN COMPANY
717 Chauncey Street, Sycamore, Illinois

▲ For more details circle NED-975 G3 on enclosed inquiry slip ▲

HOW TO GET MORE WORK

from ALL HANDS

LINEMASTER
FOOT TREADLE SWITCH
7" long, 4" wide, 3¼" deep—Weighs only 5¼ lbs.

LINEMASTER puts feet to work when hands are busy! Compact switch operates with light pressure from foot—or knee, if mounted on bench side of wall. Increases production by allowing full use of both hands. Prevents accidents to fingers. Sturdy cast iron housing, black crackle enamel finish. LINEMASTER offers low first cost, and years of trouble-free operation.

WRITE FOR BULLETIN AND PRICES

Let us quote on your special switch requirements

LINEMASTER SWITCH CORP. 424 WOODSTOCK TERRACE WOODSTOCK, CONN.

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VARIABLE CAPACITY BATTERY
output changed for seasonal demand

"Climate control" feature of the Weathermaster battery makes it possible to adjust battery power output to summer and winter driving conditions. In effect two batteries in one, the climate control adjustment is made with manually operated "key" which is inserted successively into each of the battery cells, then turned to the proper seasonal setting indicated on the battery top. Adjustment regulates the battery's water capacity, increasing it for summer use, decreasing it for winter service. Battery container is made of a light, impact resistant material which virtually eliminates partition failure. Metalex grids provide protection against overcharging. Made by **Willard Storage Battery Co.**, Cleveland 1, O.

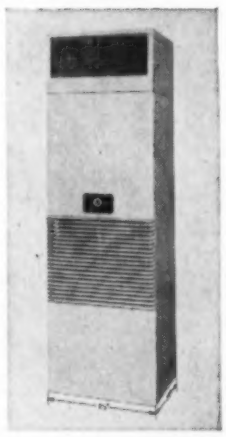
▲ For more details circle NED-977 G3 on enclosed inquiry slip ▲

ADJUSTABLE EXTENSION LAMP
concentrates light on work area

Flexibility of this Luxo lamp enables worker to adjust light to any location at desired intensity, tension of springs holding lamp where it is placed. Shadows can thus be eliminated. Arms and shade together provide radius of 45 in., making possible a concentration of light in any spot over wide area. Variety of available brackets allow attaching lamp to any horizontal, vertical or slanted surface. Made by **Luxo Lamp Corp.**, Dept. NED, 290 Madison Ave., New York 17, N. Y.

▲ For more details circle NED-978 G3 on enclosed inquiry slip ▲

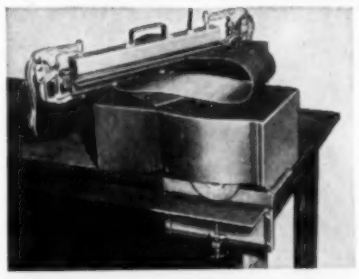
PACKAGED AIR CONDITIONER
2 and 3-hp types are available



Manufactured in two models of 2 and 3-hp respectively, this packaged air conditioning unit controls temperature, humidity, ventilation, cleanliness and air circulation. Cooling capacity for 2-hp model CCA-2 is 24,000 Btu/hour, and of 3-hp model CCA-3, 36,000 Btu/hour. Winter heating can be provided by the addition of heating coil. Units can be installed directly in the conditioned area or in an adjoining room or basement, the latter location requiring duct work. An adjustable thermostat and independent fan switch are incorporated. Made by **American Radiator & Standard Sanitary Corp.**, Dept. NED-42, P.O. Box 1226, Pittsburgh 30, Pa.

▲ For more details circle NED-979 G3 on enclosed inquiry slip ▲

ABRASIVE BELT SPLICER
incorporates electrical curing



With capacity for splicing abrasive belts up to 14-in. wide, this redesigned unit incorporates an electrical curing press which completes the curing process in less than 60 seconds. Other modifications include enclosures for motor, belt drive and grinding wheel arbor, and relocation of the press bars and cutter so that all splicing steps can be governed from one operator position. The temperature of the electrical curing cycle is governed by an adjustable preset thermostat. Made by **Aget-Detroit Co.**, 201 Main St., Ann Arbor, Mich.

▲ For more details circle NED-980 G3 on enclosed inquiry slip ▲

FLOORS IN BAD SHAPE?

Fix Them Fast With

SPEED PATCH

without halting traffic

World's finest fastest floor fixer! Simply patch holes and truck over them immediately, no waiting. Ready-mixed. Millions of pounds used regularly by industry. Write for details.

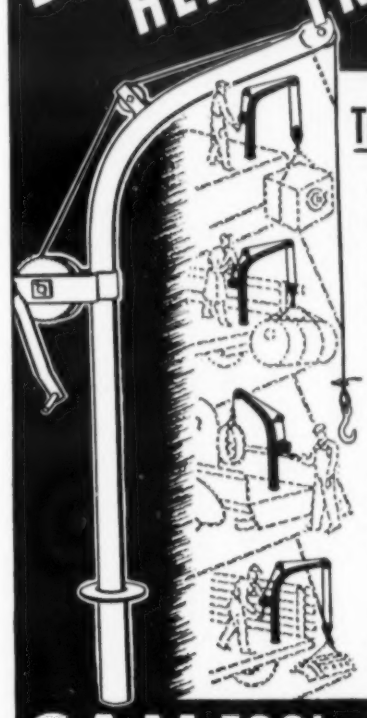
Easy To Apply

Any Handyman Can Do It

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois
In Canada: Rock-Tred Corporation (Canada) Limited, Toronto 5

▲ For more details circle NED-981 G3 on enclosed inquiry slip ▲

BLUE HERON TRUCK CRANE SAVES



Time Money Labor

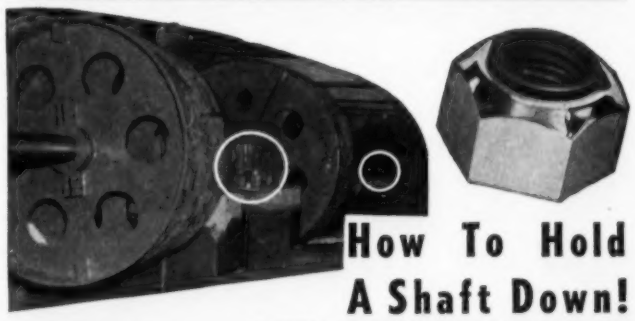
ONE MAN can handle up to ONE TON—EASILY and SAFELY!—with a BLUE HERON TRUCK CRANE. Crane swivels through full circle; one man can lift from socket, leaving truck body clear.

Equip ALL company trucks with sockets. Then change cranes from truck to truck.

CHOOSE THE MODEL WHICH FITS YOUR REQUIREMENTS
Model O.C. 30A Cap. 500#
Model O.C. 30B Cap. 1000#
Model O.C. 30C Cap. 2000#

CAM TOOL CO., INC. 11 RANDWICK AVE. OAKLAND 11, CALIF.

▲ For more details circle NED-982 G3 on enclosed inquiry slip ▲



How To Hold A Shaft Down!

"SPECIALS" for Special Problems

There is a complete line of special Security Locknut designs. If you have a fastener problem challenge us to solve it. Security Engineers are experts at keeping things tight.

KEEPING THE LINE SHAFTS from shaking the pillow block hold down nuts off was a problem for the Publishers Paper Company of Oregon City, Oregon, until they found out about "Security." Now the shafts stay "put"!

Security Locknuts keep the line shafts in place, cut down service time and reduce wear wherever vibration gives trouble. Security Locknuts can stop *your* vibration trouble too.

A Security Nut can be removed and replaced any number of times without materially loosing locking power or injury to the bolt. Installation is fast—no extra parts—nothing to shear! Fill in the coupon for more details.

We would like to have you see reports on authoritative tests. Security Locknuts are made in ¼" to 3" bolt sizes. *Fill in the coupon for more details.*

Security

THE NUT YOU CAN'T SHAKE LOOSE

SECURITY LOCKNUT CORP.
1510 North Ave.
Melrose Park, Ill.

Please send me without obligation:
☐ A Thread Tolerance Chart.
☐ We have a fastener problem and would like to know more about Security Locknuts.

Company Name .....
Address .....
Town ..... Zone ..... State .....
Signed .....

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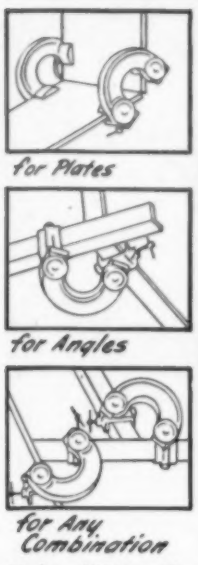

Make fitting ● positioning ● holding and welding a one-man job ● Handles plates, rods, bars, angles, tubes.

TWO SIZES FILL ALL NEEDS

WRITE FOR BULLETIN PCB6

	Model A	Model B
Length	8 in.	11½ in.
Width	5½ in.	6½ in.
Weight	5½ lbs.	11½ lbs.
Jaw Capacity (Thickness of Work)	1 in.	2½ in.
Diam. Pressure Screws	7/16 in.	⅝ in.
Price	$10.50	$17.50

Manufactured By
BERNARD WELDING EQUIPMENT COMPANY

10228 AVENUE N, CHICAGO 17, ILLINOIS

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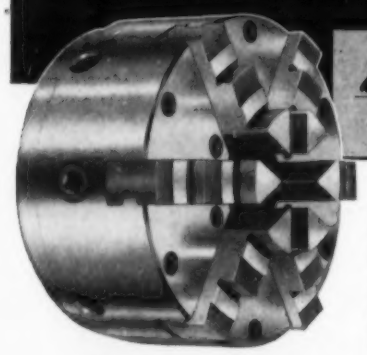
"BEST AND HANDIEST CHUCK I'VE EVER USED"

"MANY SHORT RUN JOBS CAN BE RUN WITHOUT THE NEED OF SPECIAL FIXTURES AND ARBORS"

"VERY DEPENDABLE WHERE QUALITY IS OF EXTREME IMPORTANCE"

"DOUBLED PRODUCTION RATE. TIME SAVER IN OUR WORK"

"VERY PLEASED WITH PERFORMANCE OF CHUCK"



Lines up dead true in less than a minute! Gives scroll chuck rechucking speed on duplicate parts with *.0005" precision.* 6 jaw 6" chuck handles work of 93 collets worth over $1,000! Ends most needs for stub arbors, mandrels, special fixtures. Adapts to lathes, screw machines, grinders, dividing heads. Often doubles, triples precision output.

No wonder Ajust-Tru chucks receive nothing but the highest praise! Get the *full* story. Send today for the latest catalog.

Buck 6" JAW CHUCK
With 6 External, 6 Internal Jaws
4", 5", 6", 7½" Diameters

BUCK TOOL COMPANY
722 SCHIPPERS LANE • KALAMAZOO, MICH.

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IDEAL STENCIL MARKING EQUIPMENT

YOUR CUSTOMER ANY CITY U.S.A.

...PUTS "WINGS" on your SHIPMENTS

IDEAL STENCIL MACHINE
Exclusive Automatic Carriage shifts like a typewriter . . . Minimum Margin Grip saves 25% paper . . . 3 letter sizes to fit every need.

FOUNTAIN STENCIL BRUSHES. Handy A, new natural grip design. Handy B, straight handle. Push-button ink control . . . leakproof . . . easy to fill.

FELT TIP FOUNTAIN MARKER. For free-hand marking . . . leakproof construction . . . lightweight aluminum . . . replaceable tips.

STENCIL INKS. Complete line of black and colored stencil inks. ALSO a full line of oiled stencil board, and related marking equipment.

FREE! "Ideal Shipping Guide." Money-saving shipping room hints.

STENCIL BOARD · STENCIL INK · HANDY "A" ANGLE BRUSH · HANDY "B" BRUSH · FELT TIP MARKER

IDEAL STENCIL MACHINE CO.
134 Iowa Ave., Belleville, Ill.

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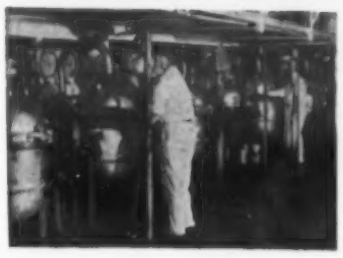

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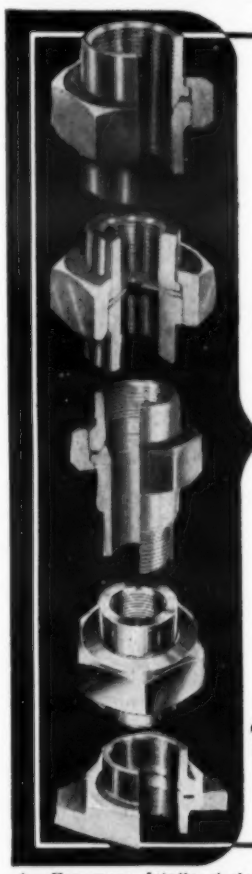

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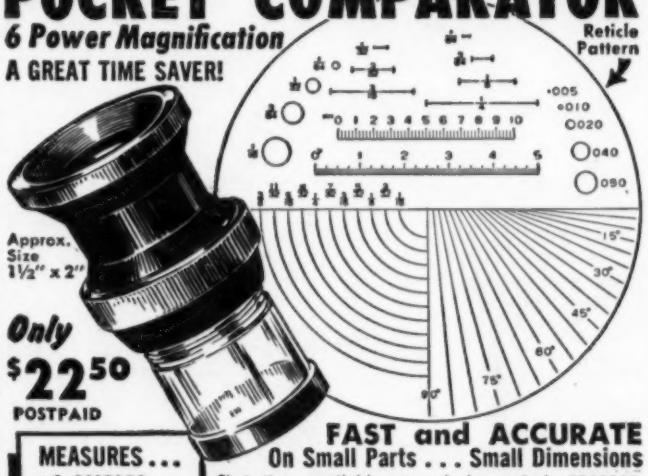

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